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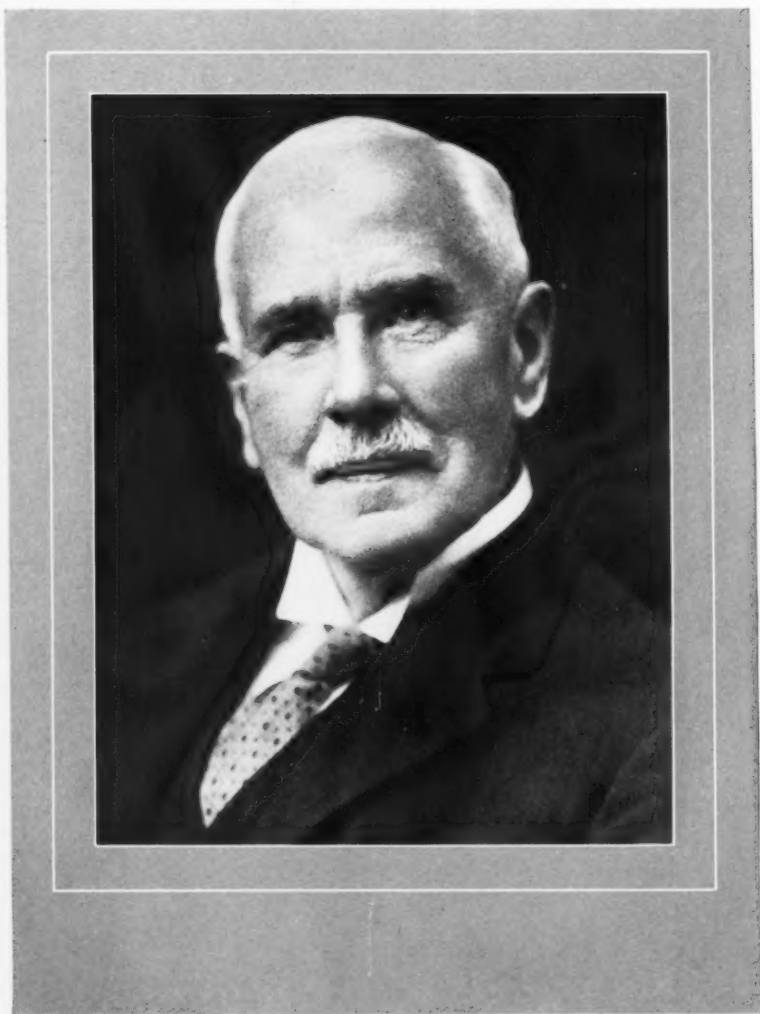
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C.B., M.B., M.S., F.R.C.S.



# CLINICAL MEDICINE AND SURGERY

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## Sir W. Arbuthnot Lane

**A** FEW men, in every generation and in all walks of life, are leaders; the mass of humanity follows.

Among the leaders, some merely keep ahead of the procession along paths which have been fairly accurately surveyed and mapped; while others turn aside from the wide highroad and hew out for themselves paths which may lead to the heights of scientific progress or to the quaggy marshes of mistaken theories. In any case, they are the pioneers, and, not infrequently, exhibit the pioneering virtues of boldness amounting almost to hardihood, fixity of purpose, and combativeness.

William Arbuthnot Lane was born on July 4, 1856, his father (from whom must have come some of his pugnacity) being, at the time, a brigade surgeon in the army. His early education was obtained at Stanley House, Bridge of Allan.

In 1881, he received the baccalaureate degrees in Medicine and Surgery, together with the gold medal in anatomy and medicine, from the University of London. He was made a Fellow of the Royal College of Surgeons of England in 1882; received his Master's degree in Surgery in 1883; and married the succeeding year.

Mr. Lane, who, like many prominent English surgeons, is not a Doctor of Medi-

cine, had an alert and inquiring mind and few of the instincts of a follower, so he set out to achieve fame and fortune along several lines, and has greatly enriched the literature of his profession by a number of books and many papers on various phases of anatomy and surgery. He made a name for himself as a bone-surgeon and gave us the steel plates which, before the bone grafting era, were widely used in the operative treatment of fractures, and which bear his name. He also had helpful things to say regarding the repair of cleft palates and hare lips.

It is, however, in the field of the anatomy, physiology and pathology of the intestinal canal that his international reputation was chiefly gained. Here his name is immortalized in such eponymic terms as Lane's Disease (chronic intestinal stasis), Lane's Kink (bending and twisting of the terminal six inches of the ileum, with adhesion of the folds) and Lane's Operation (ileosigmoidostomy, or short-circuiting of the colon).

Here he showed his originality, enthusiasm and the strength (not to say dogmatism) of his convictions; for Lane never has been of a Laodicean temperament. If an abnormal or sluggish colon was the cause of many human ills (as it undoubtedly is), it must be the basis of all (or nearly all)

of them. In taking this attitude he ran afoul of the conservative "authorities," and the controversy often become spectacular and sometimes acrimonious.

In spite of the fact that many of his views have lacked a good deal of meeting with universal acceptance, the sheer power and vigor of the man have carried him far. He was knighted in 1913 and made a Companion of the Bath in 1917. He is also a Chevalier of the Legion of Honor, of France. His professional appointments include the positions of consulting surgeon to Guy's Hospital and the Hospital for Sick Children and Surgeon to the French Hospital, all of London. He was editor of *The Practitioner* for a year or two, beginning in 1924.

A few years ago, Lane became convinced that many, if not all, of the colonic troubles with which he had been struggling for years, were the result of the modern "denatured" diet of white flour and rice, and other unduly "purified" food stuffs, and he set out to educate the public as to the disastrous effects of such eating. As he conducted the campaign under his own name and permitted his picture to be used, he aroused the horror of the fine, old, "rockribbed" British Medical Association, which excommunicated him (or permitted him to resign) when he refused to cease his public activities along that line and organized and became the president of the New Health Society, to promulgate his views.

Although nearly seventy-five years old, Sir Arbuthnot is still a dignified and commanding figure in any assembly. Tall, erect and handsome, with the look and air of a fighter, he holds the eye wherever he goes and is willing to defend whatever position he holds against all and sundry.

It seems unlikely that this splendid old British insurgent can be compelled to adopt an attitude of subservience so long as there is breath in his body.

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Learning is an ornament in prosperity, a refuge in adversity, and a provision in old age.—Aristotle.

### SPRING STOCK-TAKING

THE merchants have been having sales, the last few months, in order to move out the surplus of winter goods and get ready for a spree of stock-taking and the display of attractive merchandise, suitable for the increased physical activities of spring and summer.

This is a good time for such an overhauling and readjustment. The change of the seasons begins with the winter solstice, at Christmas time, to be sure, and the calendar year starts with the first of January; but, to all except the cold-blooded philosopher, the New Year begins when the first crocuses open their blue and white and golden chalices to the sunshine, and the green buds begin to swell on the lilac bushes.

There is no better season of the year than the springtime for promulgating and practicing the annual physical inventory or *health audit*, which everyone should have, and, presently, in spite of the inertia of the medical profession, will begin to yearn for and demand.

Ancient custom and tradition are with us at this season of the year. Without knowing why, people have grown accustomed to taking a "spring tonic." This practice which, for most, is more or less in the nature of a magic rite, has a sound basis. Only the extra-hardy folk enjoy outdoor recreations in zero weather; most of our houses are overheated, under-ventilated and quite inadequately moistened during the winter months; we sit too much and eat too much and do not breathe enough when Jack Frost is drawing pictures on the window panes. Our sluggish organs need waking up when the snow goes and the tulips come.

So this is a highly propitious time to broadcast, impersonally, the idea of a check-up of one's physical assets and liabilities, so that the activities before us may be entered upon with an intelligent appreciation of one's capabilities and handicaps and one's

cloth of life may be cut to fit the pattern with which heredity and our own pasts have provided us.

We are inclined to think that we are a decidedly forward-looking nation and there is much talk about the prevention of disease; but in New York, today, the people spend \$18 for curative medical services to every dollar spent upon the promotion and protection of health—and practically the same situation obtains in other parts of the country.

Before the War, even the more thoughtful segment of our population was able to hold the ostrich attitude regarding the wide prevalence of unrecognized physical disabilities; but the draft examination pulled all heads which were not wholly vacuous out of the sand. If a shockingly high percentage of "the flower of our young manhood" was found physically unfit for military service, what must be the predicament of the rest of us?

Considerations of public policy and social responsibility alone should be sufficient to make every physician a propagandist for this yearly auditing of the physical resources of his clientele. And when, to these, are added the personal economic advantages and enhancement of prestige which are bound to come from such a course of action, when based upon and reenforced by a sound and practical knowledge of the techniques of physical diagnosis, hygiene and prophylactic medicine, it is difficult to understand why so many medical men hang back or view the whole matter with a cold and fishy eye.

We want to put this idea across in a large way—to do our part in "selling" health audits to the people. What are the best ways to do it? Will a *Health Week* drive turn the trick? What can and will the medical societies do about it (for this is, largely, a job for Organized Medicine)? What part can individual physicians properly play.

This thing is coming! Are we, the recog-

nized guardians of the people's health, going to "let George do it"? Or are we going to run this tremendous show ourselves? It is time the profession answered that question in no uncertain terms, and our ear is cocked for sound suggestions.

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Every medical cult in the world has had its birth in medical intolerance, medical sense of ownership; and had there been no medical intolerance there would have been no opportunity for the development of these numerous cults.—Dr. F. B. Moorehead.

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### OFFICE HOURS

ONCE upon a time (and, we opine, even today, in some parts of the country) a patient might go into a doctor's office and find a penciled note pinned to the door of the consulting room, "Back in an hour." Some of the physicians' supply houses have now obviated the necessity for these rage-inspiring notes, by furnishing their customers with dummy clock faces, the hands of which may be set to indicate the hour of the doctor's intended return. But, like real clocks (only oftener) these sometimes lie.

We Americans, as a rule, find few things which irritate us so acutely as does *waiting*, and the physician who forces this unwelcome experience upon his patients does the professional, as well as the business, end of his work an ill service.

The specialists, and even the general practitioners, in the cities, have regular hours when they may be found in their offices, and people are educated to go to them, there and then, and to realize that they will not go out to make calls during those hours.

In the smaller towns, this practice is not so universally followed. The medical men seem to feel that, if they are not actually occupied in the office with a patient, they must go, *at once*, to see anyone who sends for them, otherwise they might lose a patient.

This is a wrong view of the matter. There are few patients who cannot wait an hour or two; and people can be educated to respect a doctor's office hours in the

country towns, the same as they do in the cities. It must not be forgotten that, if properly cultivated, an office practice is more pleasant and profitable than one which consists chiefly of house calls, often at considerable distances. It pays, in more ways than one, to equip an office to do good work, establish regular office hours and then stick to them.

Another way in which this practice proves helpful is that it may be used, firmly but tactfully, to discourage patients from coming to the doctor's home at odd hours—especially at mealtime and in the evening—to consult him about professional matters which should properly have been dealt with in the office at the appointed time.

The busy practitioner knows no "union hours"; but, if he is to continue at his maximum usefulness, he must have a reasonable amount of rest and recreation, undisturbed by the cares of his practice. And he will find that he can actually do more and better work if he systematizes the expenditure of his energies and refuses to permit his patients to rush him off his feet and break in upon the routine which, after careful thought, he has adopted, as best suited to the proper discharge of his professional functions, in the circumstances in which he finds himself.

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Faithfully kept office hours and a well filled waiting room usually go together.—*Urol. & Cut. Rev.*

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Play the fool. If you must, but do not forget your engagements.—Arabian Proverb.

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#### CASCARA SAGRADA

THE California buckthorn bush (*Rhamnus Purshiana*) grows all over the western states and, in the spring and early summer, when the bark is loose and tender, the stems are gathered and the bark peeled off. As it dries it curls up into quills, which are known as cascara sagrada. It seems impossible to find out what Spanish-speaking individual first called it "sacred (or holy) bark."

The bark of the ordinary buckthorn

(*Rhamnus Frangula*) is also used in medicine, under the name of frangula. Its effects are a good deal like those of cascara.

Cascara sagrada is a complex substance, containing the purgative resin emodin (found also in rhubarb, certain varieties of aloes, frangula, senna and other plants) and a bitter substance. It belongs to the anthracene derivatives, among which are also the phthaleins (which explains the laxative properties of phenolphthalein).

**Physiologic Action:** Cascara inhibits the antiperistaltic reflex of the cecum; causes congestion of the colon, with resulting seepage of serum and increase in the mucous secretion; and stimulates peristalsis in the large bowel, especially its lower end—the sigmoid flexure and rectum—by exciting the defecation reflex. In large doses it is decidedly irritating and may cause severe griping. Its bitter taste is said to improve the appetite and digestion. Its use is not followed by reactive constipation.

**Therapeutic Uses:** Cascara is the ideal laxative in chronic constipation, especially where there is a tendency to atony and diminished secretion in the rectum and sigmoid. It should never be used as a cathartic, to secure prompt and vigorous emptying of the bowels, as it is too irritating when given in large doses. For this latter purpose, magnesium sulphate, castor oil, calomel or one of the other active purgatives is far more satisfactory.

When properly employed, cascara produces, in from 8 to 12 hours after its administration, a large, soft, easy evacuation, without causing pain or other gastrointestinal disturbance. Unlike many of the other laxatives, its use is not followed by a period of constipation, and the dose does not have to be increased when it is given for long periods—in fact, after a habit of regular defecation has been established, the dose can be diminished.

It is not to be recommended in cases of spastic constipation (which seems to be growing more common), for here the bowel

muscles are already overactive and there is frequently an excess of mucous secretion. In such cases the relaxants of smooth muscle, such as atropine and hyoscyamine, are more useful.

**Administration:** To persons who do not object seriously to its decidedly bitter flavor, cascara may be given as the fluid-extract, in water or in syrup. As many people are now rather fastidious about their medicines, it is, however, better, in most cases, to prescribe the *aromatic fluidextract*, or one of the elegant and palatable ethical proprietary preparations which are now on the market.

This drug may also be given as the solid extract, in pill or tablet form; but as it is rather important to adjust the dosage, accurately, to each individual patient, and to reduce it as rapidly as is practicable, the liquid preparations lend themselves better to dose regulation.

If somewhat more active laxative effects are desired, it is better to add small doses of synergistic drugs—aloes, senna, podophyllum, etc.—than to increase the dose of the “sacred bark” beyond 30 minims (2 cc.) of the fluidextract.

**Dosage:** The plain or aromatic fluidextract may wisely be given, in doses of 10 or 20 minims (0.6 to 1.3 cc.), morning and night or before or after each meal. Just enough should be taken to secure one or two easy—not liquid—stools a day, and no more.

The dose of the solid extract is from 2 to 8 grains, once or twice a day. It is usually given in rather small quantities, combined with adjuvants. The basis of the widely and (when properly made) justly famous “Hinkle’s pill,” is cascara sagrada.

If we would study our purgative drugs more carefully, and learn which are laxatives, which cathartics and which drastic purges, and then prescribe and dispense them with a little more judgment and intelligence, we would have better success and there would be fewer “pill addicts” and

“internal bath” devotees roaming loose about the country.

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One can not properly call a piece of information knowledge until it has functioned in one's life.—Harlow D. Grose.

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### THE COFFEY-HUMBER CANCER TREATMENT

ONE of the serious reasons for keeping newspaper representatives out of research laboratories is now being abundantly illustrated by the result of the injudicious publicity which the Hearst publications have been giving to the work of Drs. Walter B. Coffey and John D. Humber, of San Francisco.

As a result of the publication of these undigested and highly sensationalized reports, physicians all over the country are being importuned by their cancer patients to procure what they believe to be a marvelous remedy and save them; and many sufferers are even making a pilgrimage to the Pacific Coast, often with great physical and financial hardship, in the belief that by doing so they will be promptly cured of their dread malady.

The facts of the case, as reported by the gentlemen concerned, in the *Journal of the American Medical Association* for February 1, 1930 (page 395), are these:

In 1925, Drs. Coffey and Humber began experimenting with endocrine extracts, in an effort to find a substance which would reduce arterial hypertension by causing vasodilation, and also stabilize tissue growth. After many failures, such a substance was prepared from the adrenal cortex of sheep.

In the course of their clinical tests, this extract was injected into several patients with high blood pressure and also a malignant condition, and it was noticed that the marked reduction of arterial tension which ensued was accompanied by sloughing of the malignant tissues, by a process of softening and liquefaction, and, later, by the disappearance of the growth. These findings



were reported to the San Francisco County Pathological Society, Jan. 6, 1930.

Studies upon patients suffering from demonstrably malignant lesions are now in progress, and the results are decidedly encouraging. These investigators have not, however, made any claim to the discovery of a cure for cancer, and specifically state that their work is in the early experimental stage and, so far, decidedly inconclusive. Nothing is proved except that the injection of this cortical extract does produce lytic changes in the cells of certain malignant tumors.

The production of substances which will cause lytic changes in malignant cells is not new. Hanson, of Minnesota, developed such an extract from the thymus glands of calves, and Charlton has reported that extracts of reticulo-endothelial tissue will produce the same results. In fact, such lytic changes have been reported following the injection of foreign proteins of bacterial and higher vegetable origin, as well as those of milk.

It is, of course, possible that Coffey and Humber have hit upon an epoch-making discovery, but, if so, that fact has yet to be proved and they are at work upon the

task of proving or disproving it, which will require at least five years.

In connection with all alleged cancer cures, physicians will do well to note and remember the three criteria proposed by Geschickter (J.A.M.A., Feb. 1, 1930). These are: The microscopic demonstration of the nature of the lesions, following a biopsy; the ability of the remedy to cure cancer in all stages, including metastases; and the permanence of the cures thus obtained, as shown by careful follow-up examinations, over five-year periods.

It is to be expected that the sufferers from cancer will chase any kind of therapeutic rainbows, as the drowning man is reputed to clutch at straws, and, for that reason alone, it is deplorable that the newspapers should so far forget the dictates of humanitarianism as to exploit the tentative reports of research workers, thus raising, in the hearts of hopeless sufferers, visions of restoration to health which are liable to lead only to disappointment and a recession into even deeper gloom.

The facts, as here presented, should be given as wide circulation as possible by all physicians who have the welfare of cancer sufferers at heart.



#### SMELLING THE SPRING

*My spirit craves the scent of bruised green things—  
The spicy, aromatic smell of pecan leaves;  
Rosemary's reminiscent, faint perfume;  
The strong, sharp reek of tansy by the road;  
The dear aroma of the new-cut grass  
Which reawakes emotions that I felt  
In adolescence, on my uncle's farm.  
These tell me, even though I had gone blind,  
That the old, fecund essence of the soil  
Is stirring and that summer is not far.*

G. B. L.  
in "An Apostle of Joy."

# LEADING ARTICLES

## The Endocrine Approach to Pharmacodynamics

By J. T. SCOTT, M.D., *Dalhart, Tex.*

**P**HARMACODYNAMICS means the action of drugs upon living organisms and tissues, hence the study of pharmacodynamics is the study of such actions. That drugs do act when administered to living organisms, and act in different ways, is generally acknowledged. What is known of these actions has been acquired from clinical observation and from laboratory experiments on the lower animals. In the light of these truths it would seem that pharmacodynamics should take rank as one of the important branches of general medicine. So far from the fact is this that we of the twentieth century are forced to the humiliating admission that the use of drugs in disease is largely empiric and has but little demonstrated scientific basis.

As a natural result of this mental attitude toward pharmacodynamics, therapeutic nihilism was born and has grown apace with scarce a resistance. As recently as 1907, in a presidential address before the Medico-Chirurgical Society of London, A. H. Bampton said: "Skepticism is in the air. Even in this society, if any daring member has introduced a subject bearing on medical treatment, it has been with an apologetic air and humble mien, well knowing that, if his remarks had any reference to the utility of drugs in the treatment of disease, they would be subjected to good-humored banter and received by those sitting in the seat of the scornful with amused incredulity." More recently our own Frank Billings, addressing the American Medical Association, said: "Drugs, with the exception of quinine in malaria and mercury in syphilis, are valueless as cures." This hopeless, helpless therapeutic pessim-

ism is the attitude of a large proportion of our medical men today.

Sajous who, in 1903, in his monumental work, "Internal Secretions and Principles of Medicine," made the first rift in the clouds of therapeutic nihilism, says that he began that work under the influence of a very similar state of mind. As a result of his many years of study and investigation in the field of pharmacotherapeutics, he arrived at the conclusion that the failure to recognize the importance of the glands of internal secretion accounted for the present ignominious position of this department of general medicine, and that the only hope of dispelling the blight of empiricism lay in the recognition of the importance of these basic guardians and regulators of all the vital forces of the body. These glands constitute a system, which is composed of the adrenal glands, the thyro-parathyroid glands and the pituitary body. The adrenals secrete adrenalin, the body's oxidizer; the thyro-parathyroids produce thyroïdin, the sensitizer; while the pituitary is the center through which these glands are regulated and coordinated.

### SAJOUS' THESIS

It follows, then, that all physiologic processes are sustained and regulated by these organs and that it is through our ability to modify and control their actions that we are able to modify and control pathologic processes. If, as Sajous states, it is through the adrenal system that all the vital processes of the body, as well as the action of therapeutic remedies, are maintained and regulated, then a new conception of phar-

macodynamics becomes a necessity. This he recognizes in these words:

"Referring, for the time-being, to therapeutics only, no apology is needed, if the interpretations of the physiologic action of drugs which I present herein differ totally from any yet advanced. The introduction of a series of functions besides, even, those of the adrenal system; viz., the various processes carried on by the anterior and posterior pituitary bodies and by the different leucocytes; the additional role attributed to the red corpuscles; the several blood constituents which play so important a part in the life process itself and the defense of the organism, etc., normally entails a complete transformation of the prevailing conceptions."

Our fund of experimental and clinical facts has not in the least been set aside. Indeed, experimental therapeutics has contributed a vast array of positive data which, utilized individually and suitably grouped, afford a rich source of material for the elaboration of doctrines based only on established facts and, therefore, poised on a sound foundation."

Previous to the time of the promulgation of this new conception of pharmacodynamics, there existed no satisfactory explanation of the physiologic action of drugs, nor, for that matter, of therapeutic measures in general. Hence the neglect, by the profession, of a branch of medicine whose road to progress seemed blocked and whose foundation was devoid of scientific principles. In view of these facts, shall we wonder that therapeutic nihilism visited us? Our profession was like a rudderless ship on the storm-tossed sea of disease without chart or compass, attempting to avert disaster and effect a safe landing at an unknown port through purposeless efforts. Or as Lewellys F. Barker has so pointedly stated: "Drugs of unknown physiologic action can not, conscientiously, be set to act upon bodily tissue in disease, in which we are ignorant of deviations from the normal."

Shall we not then, as a profession, thrice welcome any theory that promises to dissipate the clouds of ignorance and restore to its proper place among the advancing branches of medicine the neglected and despised branch of pharmacodynamics, especially when that theory is based upon demonstrable facts?

When we have acquired knowledge of the process or *modus operandi* of the physiologic action of drugs, we will have traveled far and, at the same time, have elevated this branch of medicine to the high place its importance deserves. In my opinion, therapeutic nihilism may be justly charged

with the growth of almost numberless cults and isms that flourish throughout the length and breadth of civilization. If this is not the whole cause, at least it is the main one.

How do we use drugs? The large percent of us have little confidence in their efficaciousness; we administer them half-heartedly and wonder, after leaving the patient, whether we have helped, harmed or left him in *status quo*. Can we be honest, earnest, enthusiastic, aggressive, under such a mental state of doubt and distraction? The answer is all too evident. We are forced to the conclusion that the development of cults and isms is chargeable, in the main, to our own profession; but we are equally certain that, with properly directed effort and advancement, this same profession will as surely destroy them. Let us cease our criticisms and programs of obstruction and destruction and engage heartily in the work, in our own field, of construction and advancement, whereby we may demonstrate our superiority in every way and thereby eliminate what is manifestly inferior.

#### THE CONTROL OF METABOLISM

We all recognize that, of the many functions with which the human body is endowed, those of nutrition and reproduction are the most important and fundamental, for upon these two depend the establishment and development of all others. We are concerned in this paper with consideration of the former, inasmuch as it is accomplished through the physiologic function of metabolism—the function through which drugs express their physiologic action.

Metabolism is but a term to indicate the necessary and vital physiologic process of bodily repair and waste, and must necessarily be subject to some stable and dependable controlling mechanism. The rift that Sajous made in the clouds of empiricism was due to his discovery of the importance, in all physiologic phenomena, of the basic glands of internal secretion, their relations to each other and the nervous mechanism by which they are controlled, these representing the controlling mechanism in metabolism and all other of the varied functions of the body, both physiologic and pathologic. His conception places the glands of the adrenal system at the very foundation of the glands of internal secretion and endows them with the important



function of inciting, controlling and regulating all the vital physiologic processes of the body. Furthermore, when the normal processes, from whatsoever cause, become abnormal or pathologic, this selfsame mechanism is used in the attempted restoration to normal. That is to say, *the mechanism of metabolism and that of immunization is the same.*

The adrenal glands, philogenetically the most elementary if not the most important, secrete a substance known as adrenalin, which is carried directly to the heart by way of the ascending vena cava, and by the pulmonary veins to the alveoli of the lungs, where it displays its main characteristic—an intense affinity for oxygen. As a result of this affinity, the blood is enabled to appropriate the necessary oxygen from the alveolar air to carry on the physiologic functions of the body, which are, in reality, oxidation processes. By this means the body is assured, at all times, of an ample supply of oxygen to render certain, through catabolism, the complete destruction of all debris and intermediate or poisonous products of metabolism.

The thyro-parathyroid glands secrete a substance known as thyroïdin, whose active constituent is organic iodine, which acts, by reason of the iodine content, as a sensitizer of all organic tissues and fluids, the pituitary body included, thus rendering them susceptible to active metabolic changes and also rendering all debris, such as broken down cells, intermediate products of metabolism, foreign proteins, pathogenic germs, etc., subject to rapid and complete destruction.

The third member of the adrenal system is the pituitary body, which is generally considered to be a gland of internal secretion, but is not so considered by Sajous, who endows it with a much more important function—that of *sensorium commune*, or center for the nervous control of the adrenals and thyro-parathyroids and, through them, of all physiologic functions and vital processes.

#### THE PITUITARY BODY

The pituitary body is composed of two lobes; anterior, or glandular, and posterior, or neural. Between these two lobes is a small cavity or slit—the para-nervous slit whose anterior wall is covered with ciliated epithelium and its posterior with sensitive cells—the so-called *test-organ*.

The blood that passes through the anterior bulb represents the composition of the blood of the entire body, and during this passage, the anterior bulb acts as a filter, taking from it a colloid compound of dissolved granules derived from food products, normal or toxic physiologic wastes, drugs, poisons, toxins, etc., that the leukocytes have brought to the sponge-like parenchyma of the organ and which the latter projects towards the para-nervous cavity or slit. Upon entering this cavity or slit this compound comes into immediate contact with the sensitive cells—test-organ—which takes cognizance of the composition of the blood, as indicated by this sample. Thus there is constantly bathing the test-organ a sample of the exact composition of the body's circulating medium. We are brought, then, to realize that all substances entering the blood are subjected to the action of the test-organ, which means that toxins, endotoxins, drugs, poisons, etc., are included. The importance of these glands now assumes a commanding position, since they are endowed, not only with the power of inciting, regulating and controlling metabolism, but also with that of immunization.

In view of these facts, it is evident that the cure of disease should be considered as produced by internal secretions, which reveals to us the source and *modus operandi* of the so-called *vis medicatrix naturae*, as well as a rational explanation of the physiologic action of drugs. If the cure of disease is produced by the internal secretions, then to be able to control these secretions is to be armed with the most potent weapon for the control and cure of disease. A knowledge of this ability is the offering of the new conception of pharmacodynamics.

In the past, dependence was placed entirely upon clinical phenomena following the administration of drugs in deciding their indications and proper classifications, but no attempt was made at explanation. In the future their actions will be explained through a knowledge of the effects they produce on the nerve center that controls and directs functions in general—the pituitary body.

All drugs, then, administered by the mouth, hypodermically or in any other manner, produce none of their effects by acting directly on peripheral structures, including the cerebrum, heart and cutaneous sensory nerve organs; but they invariably do

so by stimulating or depressing one or more centers in the spinal system, particularly and, in many instances, solely, those located in the chief center, the posterior pituitary body.

Prof. Wright, of opsonic index fame, made the statement, in 1906: "We have, in the power of raising the antibacterial power of the blood with respect to any invading microbe, out of all comparison the most valuable asset in medicine"; to which may be added Sajous' almost startling statement:

"I hold that we have, among the remedies that have been at our disposal many years, agents eminently capable of raising the bacteriolytic and antitoxic power of the immunizing constituents of the blood beyond even the limits required to antagonize any infection or any other form of toxemia. Indeed, so intense is this action in the case of some of these agents, that the blood cells themselves are digested (hemolysis) along with the bacteria. This brings within our reach weapons whose every part is known to all and which, in power to destroy the greatest enemies of mankind, are second to none, provided their present empirical use give way to their scientific use; viz., with the test-organ of the pituitary and the organs which it controls as the foundation of the body's auto-protective resources."

#### OLD DRUGS IN A NEW LIGHT

We are not called upon to sacrifice any of our tested and time-honored remedies nor to alter our knowledge of clinical manifestations upon which the indications for therapeutic remedies are based. We use the same remedies to meet the same indications but, whereas it was formerly an empiric use, in the light of the new conception it becomes a rational use, founded upon reason and demonstrable facts. This at once raises pharmacodynamics from the level of an art to that of a science. To realize that drugs in general produce their effects through their action on the pituitary center is to be provided with a simple and scientific explanation of their physiologic actions.

It should be remembered that it is not alone the adrenal center but that it is also the sympathetic and the vasomotor center. Some drugs act upon one center and some upon another and others upon different combinations of these centers. It would be interesting to study the actions of common drugs in the light of this new conception, but manifestly impractical. It is an extensive field and requires patient, painstaking work. My purpose is simply to direct attention to its importance,

reasonableness and scientific aspects, in the hope of arousing wider recognition and investigation.

I conclude with a mere outline of the classification and physiologic actions of a few of our best known remedies. There comes to mind first that important list known as alteratives, the name indicating their extensive field of usefulness. I merely mention a few of the commonly used ones such as mercury, iodine and iodides, adrenalin and antitoxin; the last two being modern agents that exhibit actions similar to those first mentioned. These may be denominated as drugs that enhance the defensive properties of the blood by promoting the formation of auto-antitoxin—a result due to their stimulating action on the adrenal center which controls its production. By this means the blood is charged with auto-antitoxin exactly as though it were due to the use of diphtheritic or tetanus antitoxin. Hence the value of these remedies in toxic conditions.

In another class may be mentioned drugs which promote the formation of auto-antitoxin and incite an artificial fever by exciting the vasomotor and sympathetic centers. These include belladonna and atropine, digitalis, strychnine, brucine, caffeine, coca and cocaine and quinine.

Then there are the drugs that act as analgesics and sleep producers, through their ability to reduce the blood circulating in the peripheral tissues, including the central nervous system, and thereby inhibiting metabolism, such as opium and morphine, codeine, heroin, antipyrine and acetanilid; to which may be added the various anesthetics.

Remedies that depress the functions of the adrenal, vasomotor and sympathetic centers include; arsenic, chloral, alcohol, bromides, veratrum viride, aconite, amyl nitrite, nitroglycerin and creosote.

Lastly, remedies used to influence special organs may be classed as purgatives, emetics, diaphoretics, oxytocics and diuretics.

Let me frankly state, in closing, that I consider this as less than an outline of the subject. If it serves to direct attention and stimulate interest along this line, I shall feel more than repaid for its preparation. I believe that the physician of the future will look upon this new conception as the feature of an epoch which will be known and spoken of as the discovery of the body's mechanism of meta-

bolism and immunity and the beginning of scientific pharmacodynamics. In that day, Skoda's dictum, "We can diagnose disease, describe it and get a grasp of it, but we dare not expect by any means to

cure it," will be replaced by another and more hopeful dictum, that we can diagnose disease, describe it and get a grasp of it, and *we can also, scientifically and successfully, overcome it.*

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## Medication in Connection with Anesthesia

By D. E. PICONE, M.D., Brooklyn, N. Y.

**E**VER since Dr. Crawford Long, of Georgia, discovered, in 1841, that the administration of ether caused a loss of sensation (a discovery which was appropriated, by the way, by a certain Dr. W. J. Morton, and demonstrated at the Massachusetts General Hospital five years later), ways and means of producing ether anesthesia, with the least possible discomfort and danger to the patient, have been sought.

Today, the giving of ether anesthesia is a comparatively safe procedure, and it is, in fact, this apparent safety which tempts the average anesthetist to lower his guard, at times, with consequent disastrous results. Under the circumstances it will perhaps not be amiss to review briefly the subject of greater safety, by means of auxiliary medication and preparation, before, during and after anesthesia.

### PREANESTHETIC PREPARATION

In the first place, we attempt when time is not a prime consideration, to bring the patient to the hour set for the operation in the best possible physical condition. In this connection, it is necessary, in order that the patient be safeguarded, that the anesthetist make whatever examination may be necessary, in order to assure himself that there be nothing in the patient's condition which would preclude ether anesthesia or which would react in a deleterious manner upon the organism during the anesthesia.

At this time a thorough examination of the heart is in order, especially in reference to the presence of myocardial changes, which render the giving of a general anesthetic particularly hazardous.

W. A. Schtang<sup>1</sup> found that a healthy person can suspend breathing for from

thirty to forty seconds; whereas a person with *myocarditis* cannot. If the time is from twenty to thirty seconds, we can cautiously proceed with the anesthesia, after the administration of a heart tonic. If, however, the time is less than twenty seconds, we generally advise the operator that ether anesthesia is contraindicated. This rule is a very practical one and has led to the recognition of a dangerous condition when other methods would not have directed our attention to the heart.

Next in consideration is the question of *acidosis*. This condition is to be particularly guarded against, because many factors attendant upon the operation tend to bring it about. In the first place, the patient comes in without having eaten for some time, due to his illness. Usually the body has been unable, for the same reason, to retain or assimilate carbohydrates, and this, coupled with the increased metabolism due to the fever which is usually present, and later to the increased energy transformation, due both to the anesthesia and the attendant emotion of fear (through the stimulation of the adrenals), brings about a condition, the danger of which few operators realize and few anesthetists take into consideration.

To prevent this condition, the patient is given a plentiful amount of water, bromides are administered and also sodium bicarbonate,  $\frac{1}{2}$  ounce (16 Gm.), three times a day for 48 hours before the operation. To this it is well to add 5 ounces (150 Gm.) of dextrose, three times a day for one day before the operation. These remedies act both as prophylactics and remedial agents and should, I believe, be used as routine measures.

Although it is customary to give a good, stiff purge within 24 hours of the operation, Alvarez<sup>2</sup> maintains that the purged bowel becomes, thereby, decidedly distended with gas, congested and irritable. He advises emptying of the lower bowel by enemas. It is also advisable, if more thorough cleansing of the intestinal tract is desired, to administer liquid petrolatum, night and morning, 24 hours before the operation.

Most operators, immediately before the operation, narcotise the patient with **morphine**, because it quiets the induction period, lessens the amount of anesthetic to be used and decreases the after-effects of the etherization.

I have always doubted the advisability of this procedure, as far as the open method of anesthesia is concerned. In the first place, in susceptible patients, we sometimes see persistent and troublesome vomiting, due to morphine; in the second place, if, during the anesthesia, the respirations become slow and shallow, the condition assumes very grave aspects, and, according to Flagg<sup>5</sup>, becomes difficult to meet; and lastly, it has been demonstrated by experiments on animals, that infection is unfavorably influenced by narcosis.

Atropine, alone, is a very valuable agent, however, because it promotes contraction of the arteries, antagonizes the fall of blood pressure and thereby prevents shock. Hewitt<sup>4</sup>, in 266 cases, noted that atropine prevented undue secretion and diminished after-vomiting.

Fatal **syncope** is very rare at the beginning of ether anesthesia, and is caused by irritation, by the anesthetic, of the terminals of the trigeminus in the nose. This irritation reflexly involves the vagus terminals in the heart and respiratory centers in the medulla, and a disastrous result is the outcome. We can prevent this by cocaineizing the nose before operation. This also will add to the comfort of the patient.

And now a word as to the procedure in such conditions as ulcer or cancer of the stomach, gall-bladder disease and peritonitis. In ulcer or cancer of the stomach, Crile prepares the patient by administering large amounts of 5 percent dextrose and sodium bicarbonate solution, by rectum, and 2,000 cc. of isotonic saline solution, subcutaneously, before the operation. In acute empyema, we absolutely refrain from ether anesthesia. In jaundice, Crile<sup>9</sup> advises a

delay in the operation until the danger of hemorrhage is diminished by the administration of 10 grains of calcium lactate every 4 hours, and he also administers 1,500 cc. of 10-percent dextrose, with orangeade, by mouth. In peritonitis his procedure is to give opium, hot packs to the abdomen and sides and 2,000 cc. of isotonic saline solution daily, combined with watchful waiting to note any indication for operation. In diabetes he gives 140 Gm. of carbohydrates, daily for 4 days, plus enough insulin to control glycemia and, later, after the operation, continues with one-half the amounts indicated.

#### MEDICATION DURING ANESTHESIA

We come now to a consideration of medication given during the stage of maintenance of anesthesia. Here we must consider shock, respiratory failure and circulatory failure.

As exposure during anesthesia has a bearing upon post-anesthetic pulmonary complications, and possibly shock, it follows that anesthetists should see to it that patients are adequately protected<sup>8</sup>.

Shock is one of the most frequent complications of anesthesia and is a condition which demands the most careful attention. It is usually due to traumatism of the viscera, hemorrhage, fat embolism and dysfunction. We must, however, not lose sight of the fact that deep etherization might produce most of the symptoms of shock, due to the associated low blood pressure, subnormal temperature and reflex inhibition of respiration.

**Shock** is best combated by keeping the patient warm (since loss of heat, on the surface and from the muscles, drives the blood into the splanchnic area) and by the administration of 1 cc. of a 20-percent solution of pituitary gland, intramuscularly. According to Wray<sup>6</sup> this increases the blood pressure and steadies and regulates the heart. Its action is immediate and it has the advantage over epinephrin, in that its action persists over a period of 12 hours.

**Respiratory failure** is best dealt with by the administration of a mixture of 10 percent carbon dioxide and 90 percent oxygen gas. Henderson, in his work on CO<sub>2</sub>, has shown that the great controller of respiration is this gas contained in the blood, and that the respiratory center is indifferent to both the excess and the lack of oxygen. In this condition, moreover, a hypodermic

injection, of atropine, gr. 1/100 (0.64 mgm.) and 5 cc. of whiskey are also of great help.

**Circulatory failure** may be sudden or gradual. The former is very rare in ether anesthesia and may be treated by discontinuing the anesthetic, inverting the patient, administering CO<sub>2</sub> and oxygen, artificial respiration and massaging of the heart, if the abdomen is open. It has been found that the injection of atropine, gr. 1/100 (0.64 mgm.), 10 minims of 1:1,000 epinephrin, directly into the heart, is advantageous at times.

The Japanese method in these cases is to place the patient in the prone position, with the arms extended to the sides, and rapping the seventh cervical vertebra regularly with the wrist. This stimulates the vagus and overcomes inhibition of that nerve, which is responsible for cessation of the heart-beat.

In gradual failure of the heart, we may give caffeine, ergotol and camphor in oil. We then pour physiologic saline solution into the abdominal cavity or inject 1,000 cc. into a vein, and place the patient in the Trendelenberg position.

#### POSTANESTHETIC MEDICATION

In considering medications used during and after the stage of recovery, we think of thirst, vomiting and postoperative shock.

In combating **thirst**, Morris<sup>7</sup> believes that it is a mistake to give iced water, because it tends to increase the thirst and to promote vomiting, by irritation of the terminal ends of the nerves of the mucous membrane of the mouth and pharynx. He advocates the use of hot water, in one-dram (4 cc.) doses and, if the thirst is persistent, the administering of one quart (1,000 cc.) of isotonic saline solution by rectum.

**Vomiting** can be largely avoided by the prevention of acidosis, which has been described. Cerium oxalate, in 5-grain (0.325 Gm.) doses is helpful. Flagg<sup>5</sup> has pointed out, in this connection, that, during recovery, as the olfactory sense returns, the patient, upon smelling his ether-laden expira-

tions, will often vomit reflexly. A piece of gauze, moistened with essence of orange peel and placed on the upper lip, will often prevent this form of vomiting.

In postoperative shock, we have found, after consulting a vast amount of literature, that the best remedies are epinephrin and isotonic saline solution. This is best given by the continuous rectal instillation of one dram (4 cc.) of epinephrin solution to a pint (500 cc.) of saline solution, warmed to 112°F. and given at the rate of about one pint (500 cc.) an hour. Other stimulants may be given, although I doubt whether they are of any use in this condition.

In the vast majority of cases, the question of anesthesia is considered such a minor affair (witness the vast number of nurse-anesthetists) and the work of the anesthetist such an insignificant one, that he is not given a free rein in his professional activities. This works, in the average case, to the detriment of the patient, the disadvantage of the operator and the chagrin of the anesthetist himself.

When time permits, the patient should be handed over to the anesthetist at least 24 hours before the operation, and he should be held responsible for any untoward condition arising from faulty preparation or imperfect administration of the anesthesia. As things are now, in many of the hospitals, one can hardly place the responsibility in these cases—a condition of affairs greatly to be deplored.

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# Diagnosis and Treatment of Gonorrhea in the Male

By FREDERICK J. CICOTTE, M.D., Chicago

A FEW words on the pathology of acute gonorrheal urethritis may clarify the conception of what is actually going on in the urethra during the attack and pave the way for a consideration of the diagnosis and treatment.

Schlagenhauser\* investigated the question by inoculating condemned criminals with the gonococcus at various intervals before their death and examining the tissues immediately after death. Thirty-eight hours after inoculation, he found the lacunae of Morgagni crowded with gonococci. At the end of three days, an inflammatory process was well under way and the crypts and glands were packed with pus and gonococci. The subepithelial connective tissue showed evidence of inflammation, but contained few organisms, except in the neighborhood of the crypts and glands.

The inflammation extends until the gonococci have penetrated deep into the mucous membrane, which has become acutely congested. The epithelium undergoes degeneration and exfoliates in patches. Later, the mucosa is occupied by embryonic cells; it becomes thick and elastic and bleeds easily. A smear of the discharge at this time will contain an abundance of intracellular and extracellular gonococci. Unless checked, the infection continues into the posterior urethra, where, in most cases, both the membranous and the prostatic portions are involved, and travels thence to the prostate. The colliculus may be acutely inflamed and the inflammation may extend to the seminal vesicles or, by way of the seminal ducts, to the epididymis.

## DIAGNOSIS OF ACUTE GONORRHEA

When one is confronted with an acute urethral discharge, there are two questions that must be asked and answered before treatment can be considered. The first is, *Is this gonorrhea?* This question can be answered only by a search for the gonococcus in a properly stained smear, under

the microscope. In every acute case, no matter how significant the history for gonorrheal infection, nonspecific discharge should be ruled out, as the first step.

The second question is, *Where is the discharge coming from?* If it has been found to be non-gonorrheal, this question will be answered by the presence in the smear of various elements, the source of which can be definitely known. If, on the other hand, the gonococcus has been demonstrated, the foci of infection must be located by systematic examination, carried out according to a definite scheme. Since the method that I use differs in some particulars from any I have found in the textbooks, and since it has proved, in my practice, to give clear-cut and reliable indications, I will describe it here.

First, however, I wish to point out the danger in assuming an anterior location from the fact that the infection has existed only a few days. The error of this assumption is well shown by a recently observed case, in which, when the patient first sought advice, on the fifth day after exposure, the infection was already in the posterior urethra. It continued to advance with the same rapidity and, by the ninth day, the right lobe of the prostate was involved and there was beginning epididymitis. On the tenth day, gonorrheal rheumatism developed.

No matter how early the case is seen, I always use the two-glass test. The urine first expelled will probably be cloudy, with clumps of pus cells; but, if the urine in the second glass is clear, one knows that the infection is confined to the anterior urethra and that it is safe to give the ordinary treatment for acute anterior urethritis.

The two-glass test is repeated daily for the next ten days. After three or four days there will be very little urethral discharge and the first urine will have started to clear; it should be thoroughly clear at the end of ten days or two weeks.

The urine is now examined every other day, still with the two-glass test. Should it again become cloudy, I wash out the

\*Schlagenhauser, cited by Cabot, "Modern Urology," Lea and Febiger, 1918.

anterior urethra with sterile water until the washings are clear and then have the patient urinate again. If this urine is cloudy, I know I have posterior urethritis to combat.

Since it is rare that posterior urethritis exists without prostatitis, examination of the prostate, to determine its size and to detect any abnormality, may be advisable at this time; but all manipulations must be made with extreme gentleness. By gentle pressure on the prostate one may be able to get a small amount of pus from the ejaculatory duct or from the prostate, but massage should not be applied at this stage.

#### DIAGNOSIS OF CHRONIC GONORRHEA

When the history is that of a chronic infection, it is necessary to be absolutely sure of the site of the focus. My usual procedure is to have the patient retain his urine for three hours before he comes for examination. By "milking" the urethra, from the scrotum toward the meatus, one may be able to express a small amount of pus, which should be examined microscopically. Having done this, I wash out the anterior urethra. If shreds and pus are present in the washings, I know that there is infection in this part. Now I have the patient urinate and I note whether the urine is cloudy or clear; if it is cloudy, the posterior urethra is involved.

To determine whether or not the prostate and the seminal vesicles are infected, I fill the bladder with sterile water and proceed to examine the vesicles as to size and so forth, massage the prostate gently and examine the washings.

Examination for stricture is next in order. The first step is to examine the meatus, using a *bougie à boule*, beginning with the smallest size. If the largest size that can be passed is below number 26 F., meatotomy should be done immediately. Note the size of the stricture.

The next step is to pass a straight sound—anywhere from number 17 to number 26 F.—and, by passing the finger over the urethra, to determine whether or not the glands of Littre are enlarged; if enlarged, they feel shot-like under the finger.

This usually completes my examination for the day. If I deem it necessary, I have the patient return the following day for urethroscopic examination of the posterior and anterior urethra. By doing a urethroscopy I have cleared up many an

obscure case, in which cysts or inflammation of the colliculus or granulations or papillomas in the posterior urethra have been keeping up a slight urethral discharge.

#### TREATMENT OF ACUTE GONORRHEA

The treatment of gonorrhea in the male is undergoing rapid changes, involving radical departure from the methods formerly advocated. Intelligent treatment requires, not only a good knowledge of the anatomy of the urethra and the adjacent genito-urinary organs, but also an understanding of the pathology of the disease.

In the first stage, the organisms do little more than multiply on favorable soil; practically no symptoms arise, with the exception of slight itching in some of the cases. By the time the gonococci have become sufficiently numerous to cause active symptoms, the infection has traveled some distance up the anterior urethra. The treatment is directed at the destruction of the invading organism, and it seems rational that it should be begun as early as possible after infection. Where is the logic in remaining inactive until the gonococcus has attained vast numbers and has made heavy inroads on the structures of its host?

There has, furthermore, been considerable controversy over the question of instituting local treatment during the period of acute symptoms in anterior urethritis. Shall one wait for the subsidence of acute symptoms or treat them immediately? From my experience I believe that proper and gentle treatment reduces the rate of speed with which the infection travels toward the posterior part of the anterior urethra and results in diminished virulence of the gonococci, so that the inflammation may even be restricted to the anterior urethra and never get into the posterior.

In many cases, however, the infection does reach the posterior urethra—sometimes stormily, sometimes quietly. The stormy invasions are due generally to too early and improper instrumentations or to indiscretions on the part of the patient; rarely to virulent infection, for, by the time the gonococci reach the posterior urethra, the body has been manufacturing antibodies for some days and the organisms have lost some of their virulence.

In acute cases, confined to the anterior urethra, I irrigate daily for the first ten days, with silver nitrate, in a 1:10,000

solution. Care must be taken not to use any force in giving the irrigations, to avoid overdilating the urethra or traumatizing the tissues. The patient is instructed to inject Protargol (silver protein, strong) solution,  $\frac{1}{4}$  percent, four times a day, after urinating. As the inflammation subsides, the strength of the solution is increased. He is instructed to make the injection very slowly and is warned to wash his hands with soap and water afterwards.

I advise against a "gonorrheal bag" or cotton to catch the discharge, as I have found that cotton becomes glued to the meatus, with the result that the discharge is dammed back. An ordinary pocket handkerchief, wrapped around the penis and pinned to the underclothing, is a practical arrangement which allows free drainage.

I have tried the irrigations of Janet and of Valentine, and, although these methods are used by many urologists and in many urologic clinics, I have found that, while they rapidly check the urethral discharge, the gonococci persist in the urethra much longer than when the silver salts are used. If the Janet or Valentine method is used, care must be taken not to overdistend the urethra in its inflamed condition.

Should there be posterior involvement, I instil a  $\frac{1}{4}$  or  $\frac{1}{2}$ -percent solution of silver nitrate into the posterior urethra, after all active symptoms have subsided.

On infection of the prostate, I order hot sitz baths immediately, two or three times daily, 25 to 30 minutes at a sitting, with the insertion of an opium-belladonna suppository into the rectum. After all acute symptoms have subsided, which is usually in ten days, gentle massage of the prostate is undertaken, twice weekly, until not more than from seven to ten pus cells to the field and no gonococci are found microscopically in the fluid expressed.

#### TREATMENT OF CHRONIC GONORRHEA

The treatment of chronic gonorrhea depends on the findings at the time of examination.

If gonococci are found in the urethral smears, I proceed along the lines outlined

for acute gonorrhea, with the exception that the solutions are used in a strength sufficient to cause a sensation of warmth, but not of burning, in the anterior urethra. If the posterior urethra is involved, bladder irrigations with solution of silver nitrate, 1:10,000, are started, very gently. After several of these treatments the urine should become clear and massage of the prostate should not yield more than from eight to ten pus cells to the field, in the prostatic secretion.

Before stripping the vesicles, I fill the bladder with sterile water or else have the patient retain a certain amount of urine. With the instrument devised by Dr. Louis Schmidt, used in the rectum, one is able to get at the top of the vesicles, whereas the old method, with the finger, enabled only the lower half to be stripped. This manipulation must always be carried out with the utmost gentleness. The patient then empties the bladder. If the water or urine expelled is cloudy, it is centrifugated and the sediment is examined, under the microscope, for pus.

Should the patient complain only of a "morning drop," it may be that enlargement of the meatus is all that is needed, for this condition is sometimes due, not to gonorrheal infection, but to irritation from urine collected in a pool behind a small meatus. If the meatus is very small, I cut it to number 31 F. and keep it open to this width by passing a straight sound every two or three days, until healing has taken place.

If the discharge is due to infection of Littre's glands, I dilate with Kollman's dilator, gradually, up to number 36 F. I cut all hard strictures below number 24 F. in caliber and use the dilator on those above this size, dilating up as high as possible.

If granulations in the posterior urethra are responsible for the discharge, a touching-up of the posterior urethra, through the urethroscope, with a 20-percent solution of silver nitrate, once a week, will clear up the condition, with five or six treatments; but should there be considerable bleeding and an excessive amount of granulations, I use radium for 100 mgm. hours; i.e. 50 mgm. for two hours.

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# Notes from the American College of Physicians

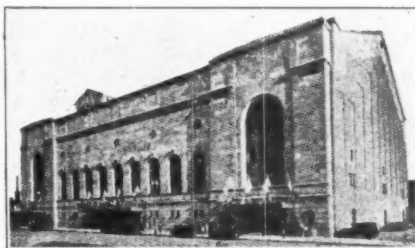
Reported by GEORGE B. LAKE, M.D., Chicago

THE thought of Minnesota in early February frightened a number of worthy and loyal Fellows and Associates out of attending the excellent meeting of the American College of Physicians (the fourteenth), which was held at Minneapolis, Feb. 10 to 14, 1930. The weather gave some basis for such fears, for the temperature hovered around the zero mark a good part of the time and, one day, reached eight degrees below. In spite of that, the attendance was about up to the average (approximately 1,200) and those who went were well repaid for their efforts.

This society consists of hard workers. The mornings were spent by groups at the various hospitals of the city, attending the clinics which they selected as most interesting, out of the widely varied offerings which were presented to them, and the afternoons and evenings in attending lectures and demonstrations in the fine municipal auditorium, where the small commercial exhibit was on the same floor with the lecture hall. The bookmen turn out in full force at these meetings and do a big business, for these men are readers. Lippincotts had their old English library set up. Paul B. Hoeber, a publisher who loves his job so thoroughly that he can't keep away from it, was there in person, as usual. He always has some interesting old books in his exhibit. Macmillan has been getting out a number of good things lately. The booths of Appleton, Blakiston, F. A. Davis, Lea and Febiger, C. V. Mosby, Saunders and Wm. Wood and Co., had crowds around them most of the time.

As last year, a high percentage of the

papers were read in a darkened room, with tables of statistics (many of which could scarcely be deciphered) thrown upon the screen. Such material is, of course, necessary and we all want it in the literature, where we can study it at leisure; but it does seem as though these sessions would be more profitable if the speakers would give us their personal experiences and impressions more directly and informally, and leave the charts and tables to be published in due time.



Municipal Auditorium, where the Meetings were held.

At the Convocation, 119 physicians were received into Fellowship and 65 associate members were elected. The president, Dr. John H. Musser, of New Orleans, delivered the address. A smoker was held after the Convocation, as usual.

The annual banquet and ball, on Thursday evening, was the best party the College has ever had. The banquet really deserved the name (which is rare); the speaker of the evening, R. B. von Klein Smid, president of the University of Southern California, was clever and dramatic; and the dance was a huge success, with snappy music and enough attractive nurses from the city's hospitals to assure partners for all the devotees of Terpsichore.

At the business meeting, Dr. S. Marx White, of Minneapolis, was chosen as president-elect (a well-merited recognition of his indefatigable services to the College); Dr. Sydney R. Miller, of Baltimore, took over the gavel from Dr. Musser; and Baltimore was chosen as the place for the 1931 meeting.

Here follow abstracts of a number of the more practically important papers and clinical lectures.

## PERSONALITY TYPES AND SUSCEPTIBILITY TO DISEASE

By Walter Freeman, M.D., Washington, D. C., St. Elizabeth's Hospital

In dealing with the sick we must study the patient as a complete individual and remember that there are definite types of psychic personalities, the same as there are well recognized physical types, and that certain psychic patterns predispose to certain disease states. By and large, the best psychologist is the best physician. A patient is a unit, not merely a collection of organs, and disease is the reaction of an individual to external and internal causes.

There are four main psychic types, and these are designated in the nomenclature of psychiatry, for we must remember that the psychotic person differs from the normal only in degree. These types are: (1) The schizoid; (2) the paranoid; (3) the cycloid; and (4) the epileptoid.

The schizoid individual is a shut-in, dreamy person; timid, unambitious, fond of regularity and ritual in life; inoffensive, yet resistive to change even to the point of stubbornness.

The paranoid is aggressive, arrogant, the kind that harbors a grudge and gets even. He explains his failures through the machinations of others; works hard, often bitterly, for appreciation; is ambitious, proud, sensitive, even suspicious; takes offense easily and makes friends with difficulty.

The cycloid enjoys human companionship, is a good mixer, unreserved, emotional. He is easily depressed by misfortune, but as easily gladdened by a good turn of affairs. Periods of tremendous industry often alternate with others of moody inertia. He functions best among people; makes snap judgments; is incapable of prolonged application, except when the task delights him.

The epileptoid individual is affected by sudden unexplained outbursts of various types, especially convulsive seizures, but also headaches, anger, asthma, etc. He is apt to be pedantic and devout.

The schizoid is especially fond of reading and study; the paranoid succeeds in business; the cycloid is good at sports.

If the schizoid gets into trouble he blames himself; under the same circumstances the paranoid blames his family, his neighbors or his boss; the cycloid falls fre-

quently (metaphorically), but he gets up again.

It is fair to assume that, if a man bears financial and business reverses well, he will bear up strongly under the assaults of disease. He has "backbone."

It has been said that cancer is paranoia at the cellular level. The patient who builds up a delusional system to account for his failures, is showing the same sort of reaction that cancer manifests in the tissues.

If we can find out how a man reacts to his total environment, we will gain many valuable points which we can use in diagnosis, prognosis and treatment.

After classifying a group of patients along these psychic lines, and then studying their disease reactions, we found that tuberculosis shows an overwhelming preponderance in schizoids, and gastrointestinal disorders are decidedly common, while these people show very little susceptibility to prostatic troubles.

The paranoids are especially susceptible to all forms of malignant disease, and they, with the cycloids, account for most circulatory disasters and streptococcal infections. The cycloids almost never have digestive system catastrophes, although hernia is very common among them.

Diabetes has never been encountered in an epileptoid, and malignant disease is decidedly rare; but they are very susceptible to abnormalities of the cerebrum and thyroid.

## WHAT CAUSES "INDIGESTION"?

By Walter C. Alvarez, M.D.,  
Rochester, Minn.

Having a curiosity to find out what is the real cause of that complex of symptoms which patients generally call "indigestion," we made a study of 500 cases of that complaint, and decided that the textbooks give a false impression. We found only 12 cases of actual organic disease of the stomach and only 167 had any recognizable disease anywhere in the digestive tract. Gastric ulcer and gastritis are rare conditions, though the books devote much space to them; but cholecystitis and duodenal ulcer, about which much less is said, are common.

Some cases are very difficult to place. One woman had migraine, gall-stones, hypertension and was continually fighting with her husband. How can one classify her? Many cases have been taken out of

the "neurotic" group in the last twenty-five years and more will be removed from that category in the next quarter-century.

Of those in whom *actual organic disease* was found, there were 77 gall-bladder cases; 42 with duodenal ulcer; 17 with subacute and chronic appendicitis; and only 6 with gastric ulcer. Four (4) patients were found to be harboring amebae and giardia, but these latter organisms, while commonly present, are, like fleas, rarely pathogenic.

A number had *symptoms resembling those of organic conditions*, but the cases could not be proved. Of these, 60 looked like cholecystitis; 13 like peptic ulcer; 8 like appendicitis; and 16 had abdominal pain for which no cause could be found.

If, upon doing a cholecystostomy, stones are found, and the trouble continues after operation, a cholecystectomy may help. If no stones are found, *keep out!* The commonest operation for duodenal ulcer and gall-stones is appendectomy, through a 3-finger incision.

Among the *general diseases* we found hypertension in 26 cases; pulmonary tuberculosis in 4; hyperthyroidism in 3. The first symptoms of a failing heart are often referred to the stomach.

Among the *functional and indefinite causes* we found fatigue neurosis (consciousness of the autonomic and vegetative functions) in 30; migraine in 12; constipation in 16; diarrhea in 30; and psychopathies in 9. Mucous colitis has been called "asthma of the bowel."

The surest way for a patient with "indigestion" to retain that condition is to go to a different physician with each attack. If they really want to get well, they should stick to the same physician, so that he can get a complete picture of the condition.

#### STRAMONIUM IN POSTENCEPHALITIC PARKINSONISM

By Frederick Epplen, M.D., Seattle, Wash.

The nervous manifestations seen after an attack of encephalitis may be psychic, motor or sensory. We may have excitomotor symptoms, such as tics, ocular and aural manifestations, etc., or conditions due to disorder of the vegetative nervous system—sweating, salivation, etc. About 54 per cent of these patients show Parkinson's syndrome, and it is these—especially the worst cases and those in young patients—that are most benefited by the stramonium

treatment. Patients who have been bed-ridden, untidy, helpless, and sometimes speechless, have been restored to self care, and sometimes to the ability to earn a living.\*

The technic of the treatment consists in giving 20 *measured minims of fresh, standard, U.S.P. tincture of stramonium*, 4 times a day, and gradually increasing the dose up to 60 or more (sometimes 90 to 100) minims, 4 times a day. The maximum tolerated dosage is continued indefinitely.

Toxic symptoms sometimes occur; but, when this happens, we cannot safely substitute tincture of belladonna. There are probably some alkaloids in stramonium which have not yet been discovered.

In intractable cases, from 1/200 to 1/75 grain of scopolamine, once or twice a day, may be added.

#### LATENT HYPERTHYROIDISM MASKED AS HEART DISEASE

By Samuel A. Levine, M.D., Boston, Mass.

Treatment of patients suffering from latent hyperthyroidism, which sometimes has been mistaken for heart disease, constitutes the greatest advance in the last decade in the treatment of the latter condition.

This type of patient has little apparent evidence of toxic goiter and yet has a true thyrotoxicosis. This condition has often been overlooked by our leading heart specialists and internists.

Such patients suffer increasing disability and eventually die of heart failure; and yet, if the true nature of the underlying disease is properly understood and properly treated, the condition can frequently be cured and almost always markedly helped.

The criteria which enable one to detect these cases depend on the secondary features of hyperthyroidism, such as the appearance of the skin, the peculiar snapping quality of the heart sounds, the development of transient auricular fibrillation, transient glycosuria, periods of inexplicable diarrhea, a feeling of warmth, premature gray hair and the failure of the customary slowing of auricular fibrillation on digitalization. These, and other points that are generally disregarded, serve as the important clues which first enable one to suspect an underlying overactivity of the thyroid gland and then to have basal metabolism

\*Moving pictures of a number of these patients, before and after treatment, were shown and were very impressive.—G.B.L.

determinations made. The proper interpretation of the latter test finally proves or disproves the diagnosis.

The unrecognized hyperthyroidism may be the sole cause of the heart failure or it may be an important burden added to a heart already the seat of another form of heart disease. When there is no additional form of heart disease, the proper treatment of the hyperthyroidism results in a complete cure. But when there is structural disease, marked improvement will generally be obtained by relieving the heart of the additional burden of hyperthyroidism and there may remain some evidence of circulatory trouble. The extraordinary recoveries that have occurred in patients of this type are nothing short of miraculous.

Because of the tremendous importance of this question from the point of therapeutic results, physicians should be constantly on the lookout for these hitherto unrecognized cases.

#### ARTERIOSCLEROSIS IN DIABETES

By Elliott P. Joslin, M.D., Boston, Mass.

Half of all diabetics now die of arteriosclerosis, the proportion having been rising steadily (from 15 percent) for the last fifty years. The main reason for this is the fall in the death rate from coma (from 60 to 11 percent). Diabetics now live longer and reach the arteriosclerosis age—about 60 years.

When arterial changes occur, they affect the heart in 38 percent of cases, the legs in 26, the brain in 14, and the kidneys in 8 percent.

Arteriosclerosis is increasing in youthful diabetics—under 40, or even under 30 years. Of all deaths of those under 50 years, 33 percent are due to arteriosclerosis. It has even been found in children (by x-ray studies, especially of the legs), but they do not die of it. We have never found the condition in a child who had had diabetes less than five years, and the average would be nearer ten years. In 300 autopsies on diabetic patients (80 of whom were under 40 years old), all showed arteriosclerosis.

We are not yet sure of the part played by cholesterolemia in this condition. The group which showed the highest figures for cholesterol, gave the lowest incidence of arteriosclerosis. Neither do we yet know the exact part played by diet.

One out of eight diabetics (12.5 percent)

now dies of gangrene. Tuberculosis and coma have been reduced as causes of death in this condition, and arteriosclerosis and gangrene can also be reduced by proper care. We must look at the patient's feet at every visit.

The diet of diabetics is coming closer to that of normal persons, and they thus live as long as the normal.

Diabetic children are taller, heavier and brighter than normal children; and diabetic mothers give birth to large children. Dextrose is now being widely used in medicine and surgery, because it increases energy. Clemenceau had diabetes and went through the War with glory, at 77 years of age. Would he have done so without his hyperglycemia?

#### CURING DUODENAL ULCER

By Seale Harris, M.D., Birmingham, Ala.

The use of tobacco is a definite factor in the etiology and perpetuation of duodenal ulcer. This may be one of the reasons why women have formerly been largely exempt from this disease. Abstinence from tobacco will relieve many cases.

Tyrod surgery is responsible for many deaths and recurrences following operation, and this seems to be increasing with the development of community hospitals, where practitioners operate now and then. The only way to be a competent surgeon is to operate every day.

The ulcer patient, if he is to reach a normal span of existence in comfort, must live carefully, sleep eight hours a day, avoid worry and have a worthy purpose in life.

#### A NEW TREATMENT FOR PELLAGRA

By Clyde Brooks, M.D., University, Ala.

Pellagra, a disease of malnutrition, is not strictly a food deficiency or bacterial disease, but a condition caused by a growth of fungi in the intestinal tract.

In my treatment of pellagra, I exclude corn and corn products from the diet, increase protein and give raw liver, just as in treating a case of anemia. By reducing carbohydrates and increasing proteins, the growth of the fungi is impeded.

Feeding experiments, on white rats fed with boiled corn, resulted in the development of signs and symptoms of pellagra in the rats. The disease flourishes in regions where the climate is moist and warm, and fungi grow luxuriantly in such climate.

Prompt improvement in the condition

of the patient resulted in all of the dozen cases treated, with the exception of those patients who were suffering from mental diseases.

#### GENITOURINARY TUBERCULOSIS

By Gilbert J. Thomas, M.D.,  
Minneapolis, Minn.

Genitourinary tuberculosis should be considered a medical condition. Surgeons overestimate its gravity, as they see only destructive lesions.

In 40 percent of cases of assumed unilateral kidney tuberculosis, the patients live less than two years. In 57 percent of cases the condition is bilateral, but many of these are overlooked.

Kidney tuberculosis is a local manifestation of a general disease, and the patient should be handled on that basis. Many cases are not discovered, because they are not studied carefully enough. Every patient should have inoculation tests made on guinea-pigs.

We do relatively few nephrectomies. Small, non-destructive lesions heal under proper treatment. When the lung condition has been controlled and repeated examinations have shown the other kidney to be sound or quiescent, a destroyed tuberculous kidney should be removed. Lesions in the lower urinary tract are almost always accompanied by lesions in the kidneys.

In operating upon a tuberculous epididymis, do not remove the testicle unless it, also, is definitely involved.

#### TUBERCULOSIS IN CHILDHOOD

By Gerald B. Webb, M.D.,  
Colorado Springs, Colo.

A child can have any type of tuberculosis, and pulmonary involvement is not rare. The chief means of diagnosis is the x-rays. Tuberculin is not greatly depended upon at present. Many patients have tuberculosis. The question is, has tuberculosis got the patient?

The highest death rate from tuberculosis occurs during the first three years of life. The earliest sign is often nervous irritability and fatigue. Loss of weight is relatively rare—some of these children are overweight. Extensive tuberculous involvement may be present with no symptoms.

All children should have an x-ray study of the chest before tonsillectomy. If this shows nothing, but there is still cause for suspicion, the abdomen should also be

studied in the same way, and will frequently show positive findings.

Tuberculous pleurisy, in children, gives no pain and is frequently overlooked. These patients must be observed and treated for years. If they are allowed to exercise too soon, they are liable to suffer a relapse, with a febrile reaction.

#### HELIO THERAPY IN TUBERCULOSIS

By C. K. Petter, M.D.,  
Glen Lake Sanatorium, Minn.

Ultraviolet rays are specific in tuberculosis, and their effect is reenforced by visible light and the penetrating infrared rays. The promiscuous use of heliotherapy in this condition is, however, dangerous and should never be attempted except under the direction of a physician trained in this work. It



Taking the Sun Cure.

is generally safe in non-pulmonary and in fibrotic, stationary cases of pulmonary tuberculosis.

Rollier's schedule (fractional, 5 minute exposure, back and front, beginning with the legs and working up gradually, on successive days, to full body exposure) should be adhered to strictly. The patient's temperature and pulse should be recorded before, after and one half-hour after each sun bath. If the pulse has not returned, at the end of thirty minutes, to 20 beats above normal and the temperature to one degree above, the time of treatment must be reduced to one or two minutes and increased very gradually. The treatment may even have to be discontinued, for the time.

The exposure should be carefully worked up to 1½ hours, front and back (a total of 3 hours) and two such treatments should be given daily during the spring and autumn months and one in midsummer. In the winter, treatments with ultraviolet-producing lamps are given, but these are less satisfactory than direct heliotherapy.

Tuberculous cervical glands should re-



ceive deep x-ray treatments, in addition to the heliotherapy, in order to produce the most rapid and permanent results.

#### ESSENTIAL HYPERTENSION

By W. B. Breed, M.D., Boston, Mass.

When the systolic blood pressure is above 200 mm. of Hg., variations have small significance. A pressure of 210 mm. means about the same as one of 280 mm.

Fat hypertensive patients are fortunate, for a minor reduction in weight (not down to the standard for height and weight) will often reduce the pressure materially.

With thin, nervous, sensitive patients, do not lay too much stress upon the blood pressure. Give them a balanced diet and do not withhold salt unless there is actual urea retention.

If the patient with a bad circulatory heredity is also psychically unstable, he is a candidate for essential hypertension.

Potassium sulphocyanate (1½ grains—96 mgm.—three times a day for one week; twice a day for the second and once for the third week; rest a week or two and repeat) helps some patients, except where there are renal or coronary complications.

In general, the treatment should be based upon sympathetic and encouraging management of the patient, without placing too much reliance upon specifics.

The five probable outcomes of essential hypertension are: Chronic arteriosclerosis; cerebral hemorrhage; angina pectoris; congestive failure; and diabetes mellitus

#### DIFFERENTIAL DIAGNOSIS IN THE UPPER URINARY TRACT

By T. H. Sweetser, M.D.,  
Minneapolis, Minn.

Many cases of tuberculosis of the kidney are treated as cystitis. If blood is present in the urine, a searching examination must be made.

Pain from upper urinary tract lesions is relayed in the spinal cord and referred to the regions of the stomach, appendix, ovary, etc.

A woman suffered pain in the right, upper abdominal quadrant, with typical symptoms of gall-bladder disease. Several physicians suggested cholecystectomy. The only urologic symptoms were pus cells in the urine; but the x-rays showed a stone and urologic study located it in the ureter, with diffuse pyelonephritis.

In another, the symptoms led to the performance of appendectomy, which did not relieve them. Slight hematuria after the operation led to a urologic study, which showed a stone in the ureter, producing obstruction.

A diagnosis of appendicitis was made in a patient who was later shown to be suffering from pyelitis, double ureter and hydronephrosis, and was relieved by repeated irrigation of the kidney pelvis with a solution of nitrate of silver.

In cases of doubt, in abdominal diagnosis, study the urinary system.

#### UNDULANT OR MALTA FEVER (BRUCELLIASIS)

By Walter M. Simpson, M.D., Dayton, O.

Brucelliasis (often called undulant or Malta fever) is often confused with typhoid, malaria, tuberculosis and influenza. Agglutination tests with *Brucella melitensis* or *B. abortus* (Bang's bacillus) are not always positive. Leukopenia, with relative lymphocytosis, is a characteristic finding.

Many persons are naturally immune to this disease, and before puberty, in men and animals, there seems to be a relative immunity, though some cases do occur in young individuals. It is not transmitted from man to man.

Most cases of brucelliasis, in this country, are due to the eating of raw milk and its products. Many herds—even those which are "certified"—are infected with these organisms, and the condition is now more important than bovine tuberculosis.

The only effective prophylaxis is the pasteurization of all milk and dairy products.

A well-prepared vaccine is the only dependable specific treatment which can now be recommended.

#### HYPOTHYROIDISM

By Charles H. Hensel, M.D.,  
St. Paul, Minn.

The typical picture of myxedema is well known and easy to recognize. We do not wait for these signs to diagnose and treat hypothyroidism. We look for indications of deficiency, not absence of the thyroid.

These patients are not fat and bloated; they may even be thin. The physical signs are few. Among them are mottling of the arms, cold and cyanotic extremities, a slight lowering of the basal metabolic rate, etc.

Subjective symptoms are more promi-

nent: Undue fatigue; unrefreshed by sleep; mild, secondary anemia; paresthesias; joint and muscle pains; headache ("migraine"), etc. In fact, the chief differential point between this condition and "neurasthenia," is that the neurasthenic hides behind his symptoms, while the hypothyroid fights them, more or less unsuccessfully.

Among the causes of hypothyroidism are: Congenital vulnerability of the endocrines; psychic stress and strain; infections of all kinds; puberty, pregnancy and the menopause (in women). Hyperkinetic individuals may overdraw their energy balance and damage the thyroid.

The treatment consists in the administration of thyroid extract, which should be continued through any intercurrent illness. It is best to select one good preparation and then stick to it, so that one can become familiar with the results to be expected.

It is necessary to remember that some manufacturers express the doses of thyroid products in terms of *fresh* and others of *dried* glands. The daily dose of the former (e.g. Burroughs Wellcome) is 5 to 15 grains; of the latter (e.g. Hynson Westcott and Dunning) is 1½ to 3 grains.

#### RHEUMATIC HEART DISEASE

By S. A. Levine, M.D., Boston, Mass.

The condition we call "rheumatism" is a protean disease, like syphilis. All persons are not alike biologically, so, even if the virus were always the same, the response would be different. One patient will have an explosion of acute polyarthritis, severe and soon over; in another the infection will smoulder for years; in a third it will show its effects as chorea. The heart may suffer in any of these conditions.

The size and weight of all organs vary from month to month—the internal environment changes—and so there are variations in susceptibilities at different times of year. Rheumatism is most prevalent in February.

Freckled children, and those who are thin and long-fingered are especially susceptible. There is almost always a rheumatic family history.

Fever without obvious cause, especially when accompanied by sweating, pallor and epistaxis, and unexplained cyclic vomiting, is generally of rheumatic origin.

Mitral stenosis is *always* rheumatic,

though only 50 percent of patients give a clean-cut history of acute arthritis or chorea. In others the infection has been smoldering and has not been diagnosed.

Mitral incompetence is a real entity in the development of stenosis. The pulse is rapid (110 to 120 p.m.) and the sounds snapping, for months. There may be a slight systolic murmur. This condition may clear up entirely—a case of "potential heart disease"—and it may be years before we know what the outcome will be. Hypertrophy and dilatation, with a systolic murmur, or any mitral diastolic murmur, shows organic cardiac damage.

An accentuated, snapping first sound, especially with a history of rheumatism, is our earliest clue to mitral stenosis. If we listen carefully, after exercise, we can sometimes detect a presystolic rumble.

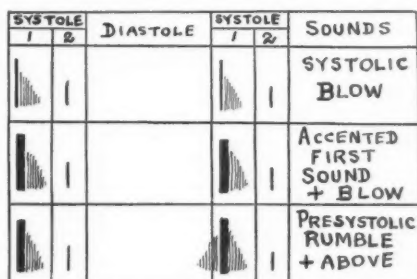


Fig. 1.

One cannot practice medicine properly without the use of a stethoscope, and one must learn to listen to *each phase* of the heart sounds, *separately*. The sounds mentioned (and others which may be heard) may be represented by diagrams, as in Fig. 1.

The diastolic blow of aortic insufficiency is continuous with the second sound. The diastolic murmur of mitral stenosis purrs or rumbles, and there is a short pause before the second sound. In auricular fibrillation, the auricular systole ceases, and therefore the presystolic murmur which is due to the systole of the auricle ceases also.

These heart affections are due to vascular vulnerability, constitutional and hereditary. In "vascular families," the parents of rheumatic children often show a history of angina pectoris. More than 50 percent of the patients over 45 years of age have had hypertension, and these seem to do better, as to symptoms and circulation.

Subacute bacterial endocarditis affects injured valves, in persons with aortic insufficiency and those with systolic murmurs without stenosis. No systolic murmur of moderate or greater intensity is benign. Mitral stenosis is the commonest cardiac injury after rheumatism, and these patients

do not develop subacute bacterial endocarditis.

The first thing to do with "potential heart disease patients" is to *get them fat!* These children usually succumb between 10 and 14 years. We do not see cases of chorea after the age of 18 or 20 years.

## The Effects of Diathermy

By ARTHUR LAROE, M.D., *New York, N. Y.*

IT IS probably no longer necessary in such a paper as this to define diathermy, which is generally known within the profession and, indeed, amongst the laity as well. It might be simply stated, however, that diathermy is the passage of a resonant, high-voltage, low-amperage, high-frequency electric current through the tissues. It does not differ greatly from the passage of other forms of electric energy through the tissues, excepting in detail of application and the effects produced.

Diathermy is sometimes defined as the generation of heat within the tissues by the passage of this current. I dislike this definition, because the generation of heat is only one of many effects produced and, although an important one in most instances, is sometimes not the effect we seek at all.

It is true however, that when heat is desired deep in the tissues, this method offers the only possible means of producing it there. I gravely doubt, for instance, the effect on the appendix of a hot-water bottle or an ice bag, placed on the abdomen. My understanding of the reflexes makes it difficult for me to believe that any of the heat of the water actually reaches the appendix, except indirectly through the warming of the entire blood stream, just as it might do were the heat applied to the calf of the leg instead. Of course there is a sedative action on the reflexes, but this, properly speaking, is treating a symptom and not treating a disease.

### GENERAL OR SPECIAL USE

The question has arisen many times, whether diathermy is properly to be taken up by the general practitioner, or whether it should be developed purely as a specialty. The question is no longer in order, whether or not it has its rightful place in the general armamentarium. The

answer to this question is that it is properly to be embraced by both the generalist and the specialist—just as one might answer a question as to whether serum therapy or endocrine products or surgery were for the one or the other. To some extent, the general man uses all of these, and just so he should be prepared to use this other new development in the science.

There are many reasons why this question is thus to be answered. Principal among them is the fact that many of the general practitioner's cases actually require diathermy as a method of choice, and that he owes it to his patients to give them the best that is available. In some of these cases, the technic required is such that it ought to be administered by a specialist, but in the great majority of cases he can readily do it himself or have a trained assistant do it for him, in his own quarters.

There are also economic reasons. It is a fact beyond doubt that being equipped to administer this form of therapy properly, increases a man's prestige in his community and adds to his patients' appreciation of his efforts to help them. It also, oftentimes, prevents those patients from going to the irregular who, all too often, is equipped to do this work or something similar, and who is also, all too often, within the law when he does so.

It would be difficult, in anything less than a volume, to discuss the many uses for diathermy in a general practice. Perhaps in such a paper as this it would be better to outline the various effects produced by the current in the tissues, mention a few specific examples, and leave it to the reader's imagination to carry the thought on to his own practice.

### EFFECTS OF DIATHERMY

Possibly the first effect of diathermy in the tissues, and the one upon which many



of the others depend, is the production of **heat**—heat from within; not simply heat applied at one place when it is required at some other, but heat generated at the point where it is most needed; heat of any intensity desired, within tissue tolerance (medical diathermy), or up to destruction of tissue by coagulation (surgical diathermy); heat of any duration that fits the needs of the case; heat within absolute control of the operator at all times.

It is seldom that we desire heat alone for its primary effect. Rather, we usually want it for one of the other effects that are produced by the heat. Occasionally, however, the heat is the primary object in a given sitting. I have come to have great respect for this form of energy that we call heat. I wonder if there is any better definition for life itself than this one word, heat. Certainly, without this energy, in its positive form and in sufficient quantity, there is no life. Death surely comes when heat leaves. "The warmth of life," and "cold as death" are common expressions. Occasionally it is possible, by instilling this energy artificially, to turn the tide of events from a probable death, back to life itself. And diathermy is surely the quickest and surest means of applying the energy.

What is true of the organism as a whole, with regard to heat and its effect upon life, is certainly true of the individual cell. It is also true, however, that under differing circumstances a cell may require different degrees of heat. Nature recognizes this when, in disease, she produces temperature elevations by increasing combustion. Nature, however, often falls far short of the mark in many instances, raising the temperature of the entire blood stream, instead of that of the part where the trouble has arisen.

#### HYPEREMIA

A direct result of the heat, gradually produced as it is in a properly administered diathermy treatment, is a marked hyperemia. This is a *real* hyperemia, affecting arteries, capillaries, veins and lymph channels. It is not merely a venous stasis, such as is erroneously termed "Bier's hyperemia." It is an intense hyperemia—an active one. It suffuses the diseased parts with an active flood of blood, fresh, oxygenated and loaded with lively phagocytes.

A study of the physiology and the pathology will reveal that the successful issue of a combat between the tissues and an invading force often depends upon the extent and the activity of the hyperemia. A reaction to some disease processes is said to be either adequate or inadequate, largely depending on whether or not the hyperemia is sufficient. It often is possible, by the timely use of diathermy, to convert a reaction which is inadequate into one that is adequate, and thus terminate the disease.

Local metabolism in the diseased part is stimulated. I suppose this occurs much as a chemical reaction is increased in a test-tube when heat is applied. General metabolism is also increased, as are the production of enzymes, hormones and endocrine products. This occurs as a result of the general elevation of temperature that accompanies every application of diathermy, even locally. This all has a bearing on the outcome of many disease conditions, both acute and chronic.

#### PHAGOCYTOSIS

Phagocytic action is increased by diathermy. This occurs in two distinct ways: First, as a part of the hyperemia above described, phagocytes crowd the area being treated; then, as a result of the stimulation of local metabolism and the direct effect of the heat on the white cells, each phagocyte thus brought to the area is increased in activity. The opsonic index is raised, thus rendering more effective the fight against the invading bacterium. Besides this, the dilatation of the walls of the capillaries, brought on by the heat, makes extravasation more readily possible to the white cells, and their work is therefore more effective. In this way many acute conditions can be aborted before they fully develop, and many are cleared up while still acute, before they become chronic.

#### RELAXATION

A relaxant effect is produced by diathermy on all tissues. This probably accounts, primarily, for the hyperemia produced, the relaxation affecting the autonomic control of the terminal arterioles, thus permitting a flood of arterial blood to surge into the capillaries. Whether this be the true explanation or not, the fact remains that, under diathermy, both striped and unstriped muscle relax markedly; and we make use of this in treating numerous

conditions, aside from the purpose of producing a hyperemia. Spasm, wherever and from whatever cause, is treated in this way. Pylorospasm in the infant and cardiospasm in the adult respond equally well. Muscle spasm about sprains and fractures is relaxed and thus the pain is greatly relieved. The reduction of blood pressure that follows diathermy, when given as autocondensation, probably has for its explanation a generalized relaxation of the arterial system. The coronary artery is undoubtedly in a state of spasm in a case of angina pectoris, and diathermy relaxes this spasm and greatly relieves the distressing symptom. Other effects of diathermy remove the cause, and the relief thus effected endures for a long time.

#### ABSORPTION

An absorptive effect follows diathermy. Effusions, of one nature or another, are caused to pass back into the blood stream, and swellings are reduced quickly. There is no quicker way to reduce what the laity calls "water on the knee" and similar afflictions than to treat them in this way. Often two or three sittings, if begun soon enough after the injury, will suffice; whereas, otherwise, the case might go on, under the usual methods, for many weeks. This applies, not only to the joints, but to other tissues as well, and to the various cavities.

It is here that we are required to deal with one of the contraindications to diathermy, for there are a few conditions in which its administration is distinctly dangerous. I have used this statement to refute the claim that diathermy is solely psychic in its effect. If there are no true physical effects, how, then, would we explain the disaster that follows its improper use in some of these cases? This current causes absorption into the blood stream to take place, and makes no distinction between benign and malignant fluids. Virulent pus is absorbed as readily as a benign effusion, and the danger is great that a generalized septicemia may follow. Multiple abscess formation may result, and death has followed in more than one case. It sometimes calls for a nice degree of professional judgment to determine the advisability of the use of diathermy, but this same may be said of surgery and other methods.

As an example of where not to use diathermy, pneumonia might be mentioned, referring to a case where the patient is

already overwhelmed with his toxic absorption and his temperature is no longer able to sustain itself. Diathermy through the lungs, here, will hasten the absorption and death.

A good rule to follow is to refrain from the use of this method wherever there is frank pus, confined. This does not refer to a cavity containing pus, with adequate surgical drainage. Otherwise we would have to forego its use in chronic osteomyelitis; whereas, in this condition, it produces some of its most outstanding results.

As an apparent exception to this rule I might mention pyosalpinx. It seems to be perfectly safe to diathermize through the tubes when they contain pus, and in many clinics, where formerly surgery was resorted to in all these cases, diathermy is now commonly used. Possibly this is explained by the fact that the organism usually involved in these cases is highly vulnerable to the degree of heat which diathermy produces. If it does enter the blood stream, it has probably been so attenuated by the heat that it falls an easy prey to the active leukocytes.

#### BACTERICIDAL EFFECT

This brings up another effect of diathermy—its bactericidal effect. Of course we know that most pathogenic organisms are more subject to the effect of heat than are the normal body cells. And the degree of heat to be produced by diathermy is such that most organisms are greatly attenuated by it, and some are, probably, totally destroyed. In addition to this effect of weakening the resistance of the bacteria, diathermy, at the same time, increases the activity of the white cells and the chemical effect of the fluids, so that, with all these together, it goes a long way toward destroying a bacterial invasion. In the case of the gonococcus, I believe that the heat alone is sufficient to destroy the organism, and although the technic in this application is sometimes somewhat difficult to apply, the results have been truly revolutionary. Even with the most faulty technic I have ever witnessed, I was told by the physician using the system that the period of activity was reduced by half.

A review of the effects mentioned will suggest that, in some cases, a number of them are at work at the same time. For instance, in chronic osteomyelitis, probably all of the foregoing effects are at work reducing the period of illness. And similarly

in most of its uses, diathermy is working in each of several ways to bring about the beneficial effects that we note.

#### PAIN

We sometimes use diathermy for a single effect in which it is very successful. I refer to the alleviation of pain. When pain as a symptom becomes dangerous, as it sometimes does, interfering with proper rest and wearing out a patient's resistance, diathermy often controls the situation better than will narcotics, and without the attendant dangers. The relief of pain is dependent mostly upon its relaxant effect. The pain of fœtal colic is sometimes completely controlled by diathermy and, indeed, the relaxation is sometimes so great as to permit the natural passage of the calculus. Likewise, the pain which is so distressing in angina pectoris is completely relieved. The pain caused by fractures and other traumatisms is greatly relieved, as are also the pains of the various forms of neuritis. Of course, this latter condition calls for an accurate diagnosis of the location of the source of the trouble; but when properly located and diathermy is applied, relief is almost instantaneous. Naturally, diathermy applied to the knee for a pain there, will not relieve the pain if its source is a neuritis in the sciatic nerve, in the sacrosciatic notch.

#### FIBROLYSIS

There is one further effect of diathermy which is far reaching in the results it produces, and there are probably many other effects about which we do not know at present. This one refers to most chronic lesions which depend on fibrosis. Many chronic diseases, in widely separated locations, are in this category—in fact, nearly all chronic disease. This effect has been variously termed, but I prefer to call it *fibrolytic*, because this term more nearly describes the process than any other. There is, under the repeated application of diathermy in such a condition, a gradual disintegration, or lysis, of the fibrous tissue deposits, and a return to more nearly normal of the structure of the tissue involved. Probably no normal tissue is replaced in any case, but it is certain that an increase of function, on the part of the normal tissue not yet destroyed, follows the removal of some of the fibrous deposits. The vicious circle of fibrosis and its resultant partial

ischemia, and then more fibrosis, is broken and a check is placed on the progressiveness of the disease. Just what causes this action we are at a loss to explain, except hypothetically.

We have been assailed, by those who do not care for the newer methods, because we claim that this action takes place, and yet cannot explain it. How ridiculous this attitude is, in view of the many uncertainties in medical science! The roentgenologist does not know why he can reduce uterine fibromas with his x-rays, but no one denies him his claim that he can do so. The internist does not know why many of the effects of his drug medications take place. Ehrlich himself propounded the side-chain theory only as an hypothesis.

Whatever may be the explanation of the effect, the fact remains that, in many chronic conditions, where fibrosis is writing the story of the progress of the disease, always in the direction of ultimate death, diathermy, repeatedly applied over a period of time, greatly retards the progress of the disease and restores a condition of health closely approaching normal for the individual.

It would not be within the scope of this paper to mention all of the diseases that are classified in this group. In general, they are the diseases of old age, and among them are the cirrhoses of the liver, the chronic nephritides, prostatitis, angina pectoris, arteriosclerosis, chronic neuritides, etc.

#### CONCLUSIONS

A review of all of these effects of diathermy and an application of it to a given group of general office and hospital cases, will reveal that, in well over half of the cases, some one or a group of the effects described is desirable.

It is probably true that diathermy has a broader range of actual, useful applicability than has any other single method of treatment. But leaving aside all those instances where it is simply one method among many, and taking only those where it is the one method of choice above all others, and where it is the only possible method to be used, it still has a very wide usefulness, in both the practice of the generalist and the specialist.

The general practitioner will probably find many reasons for his use of diathermy in the foregoing outline, but the most important one of all is that he owes it to

both himself and to his patients. Strictly speaking, it is not fair to the patient to treat him with an obsolete method when a more modern and efficient one is available;

and it is not fair to the physician that a patient should go to another physician to receive a treatment that his own physician might well give to him.

## The Anatomy and Pathology of the Seminal Duct

By HARRY C. ROLNICK, M.D., Chicago

**A**LTHOUGH the study of the male genitalia has always been of interest, relatively little attention has been directed toward that portion usually termed the seminal duct; that is, the epididymis, vas deferens, seminal vesicles and ejaculatory duct. It is, therefore, thought fitting to present a few observations made on these structures.

The seminal duct is derived from the Wolffian body and duct—structures which are prominent in the early weeks of embryonic life and which constitute the early excretory system. Because of its derivation and from the study of its physiology, the seminal duct can well be considered as analogous to the urinary tract. (Fig. 1).

The epididymis is both an excretory and a secretory organ, as is the kidney.

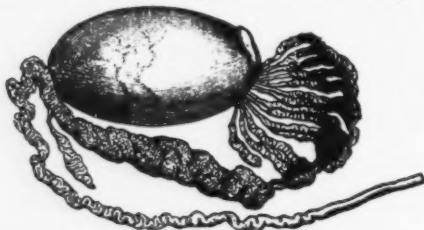


Fig. 1.—Cut from Toldt's "Anatomical Atlas," illustrating semidiagrammatically the human epididymis. The head and body of the epididymis show the compartment formation.

The tail of the epididymis contains most of the sperm and can well be compared to the pelvis of the kidney, which retains a few cubic centimeters of urine.

The vas deferens, due to its derivation and physiology, is analogous to the ureter, with its dilated lower portion, the ampulla, entering the neck of the seminal vesicle at an angle, as does the ureter in the bladder.

The seminal vesicles, which are reservoirs for spermatozoa, can well be com-

pared with the bladder, the reservoir for urine. (Fig. 2).

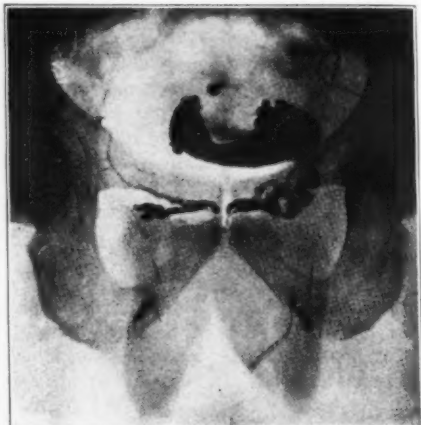


Fig. 2.—Entire seminal duct, from tail of epididymis to prostatic urethra, injected in the living with iodized oil through vasotomy. Not even a watery fluid could be forced beyond the tail of the epididymis. Note large loop in pelvic portion of the vas. The large shadow above the vesicles is due to surplus oil in the bladder.

Thus, it can be readily understood that various types of infections and other pathologic disturbances may attack these structures.

The common forms of epididymitis are secondary to extension of gonococcal infections or are due to chronic congestion and infection of the posterior urethra, in various lesions at the bladder neck, particularly prostatic hypertrophy. However, hematogenous infections of these structures are not rare. Tuberculosis of the epididymis is probably the most common form, but there are many other infections often overlooked, sometimes very mild, which attend it. Many cases of so-called idiopathic hydrocele are due to chronic inflammation of the epididymis.

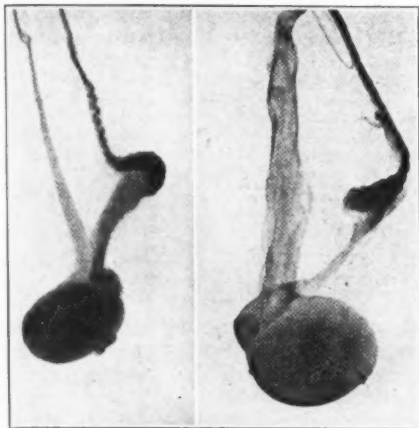


Fig. 3.—(A—left) Testicle and epididymis of dog. The epididymis was separated from the testicle except at the globus major and then injected through the vas deferens with a 50 percent sodium iodide solution as a contrast fluid. Nothing could be forced beyond the tail.

(B—right) Human testicle and epididymis with epididymis separated from the testicle except at head, as in A. As shown here no fluid could be injected beyond the tail of the epididymis.

The vas deferens very often shows strictures along its course, as a sequel of epididymitis. Not infrequently, strictures of the vas deferens are entirely independent of epididymitis; this being analogous to the strictures of the ureter, reported so frequently in the recent literature.

The seminal vesicles—hollow, irregular sacs, peculiar to the human being—are good-sized structures, lying above the prostate, and are of considerable importance in chronic gonorrhea and its complications. It is in the seminal vesicles, rather than in the prostate, so commonly mentioned as the seat of chronic infection of the male adnexa, that chronic disease persists and makes eradication of gonorrhea so difficult in many cases. Belfield has well stated that the eradication of gonorrhea in man must include disinfection of the seminal vesicles.

Epididymitis is due to the extension of the infection from the seminal vesicles along the lumen of the vas. It has been shown experimentally, however, that when the infection reaches the epididymis it becomes peritubular and interstitial. This later observation is important for, with early relief of tension by incision, it may be possible, in many cases, to prevent the common occlusion of the epididymis as an end result.

It is also interesting to note that it has been found, experimentally, that fluids cannot be forced beyond the tail of the epididymis. This explains the frequent incidence of "erotic epididymitis" after ungratified sexual excitement, which is of a few hours or days duration, without the development of true epididymitis; the regurgitation of the distended seminal vesicles forcing fluid into the tail, but not beyond. (Fig. 3).

It has also been shown that it is impossible to produce a chemical epididymitis. This disproves any claims that injections, in themselves, will cause this condition. However, injections administered with great force, and thus producing trauma, will allow the extension of the infection from the seminal vesicles to the epididymis.

Many anomalies of the seminal duct are noted, quite similar to those more frequently described in the urinary tract, such as absence of the seminal vesicles, duplication of the ampulla and diverticula. Occasional anomalies at the head of the epididymis are the apparent etiologic factors in the production of the cysts con-



Fig. 4.—Seminal vesicle (s v) of man. The vas deferens enters the vesicle at a right angle. The overfilled vesicle has expelled surplus oil into the prostatic urethra whence it flows into the bladder "oil." These unperceived peristaltic contractions of the overfilled vesicle may expel also its normal contents, including spermatozoa and proteins, into the bladder, where they mingle with the urine.

taining spermatozoa—spermatoceles—frequently noted at this point.

Albuminuria may be due to disturbances in the seminal vesicles and prostate, and not renal in origin. The globulins present in the seminal vesicles may be



expelled into the bladder in large quantities and give a similar reaction to nitric acid as does serum albumin.

Thus, in this brief outline, the impor-

tance of the seminal duct is shown to be considerably more than is usually recognized.

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## Colloidal Metals as Therapeutic Agents

By HERMANN HILLE, Ph.D., Chicago

FOR hundreds of years the heavy metals, such as gold, mercury, arsenic, etc., have been widely and successfully used in medicine; empirically at first, but, in recent years, with a greater appearance of scientific basis which is, perhaps, not wholly justified, though clinical results continue to be obtained.

The crystalloidal salts of the heavy metals are, however, decidedly toxic and irritating, so that the field of their usefulness has been somewhat narrow and the danger of serious or fatal poisoning by no means negligible.

The colloidal metallic preparations, on the other hand, are much less toxic and are almost entirely free from irritating properties, so that they may be administered in considerable quantities, not only by mouth but also hypodermically, intramuscularly and intravenously, without untoward effect and, usually, with rather striking clinical results.

As to their mode of action, the hypothesis advanced by Dr. Burr Ferguson, of Birmingham, Ala.<sup>1</sup>—that they stimulate the production of leukocytes and thus increase the defensive powers of the body—seems reasonable, in view of the effects on the white cell count reported by Dr. F. I. Ridge<sup>2</sup> and other observers.

In view of Dr. Ferguson's interesting ideas and of the increasing interest in the colloids as therapeutic agents which physicians appear to be manifesting, it has seemed wise to publish a few of the more complete and interesting clinical reports from among the large mass of such material which has been sent in by physicians all over the country, the originals being on file in my office. These reports are not advanced as proving anything, but, taken together, they are decidedly suggestive and should serve as a basis for wider and more detailed clinical and laboratory investiga-

tions by many independent workers. The individual reports should receive the consideration to which the standing of the reporters entitles them.

The chief preparations mentioned in these reports are: Mervenol (colloidal mercury-copper sulphide), Armervenol (colloidal mercury-copper sulpharsenite), Aurol (colloidal metallic gold) and Lunosol (colloidal silver chloride).

The action of the first two of these substances, especially in acute respiratory diseases, such as influenza and pneumonia, is fairly well established and has been, to some extent, previously reported<sup>3</sup>. Extended reports on the other two preparations have not, I believe, been made.

As an unbiased comment on the properties of Mervenol and Armervenol, by a thoughtful physician, the following letter, written by Dr. Wesley Taylor, of Detroit, to Dr. L. L. Schwartz, of Pittsburgh, may be of interest:

"I have used Mervenol and Armervenol extensively during the last year and one-half or more. I have had some very satisfactory results from their use. I have had no bad results in any case, as far as I am able to determine. I use Armervenol more frequently than I do Mervenol, though there is no reason for this, merely habit.

"I have used both of these preparations after treatment by Salvarsan (arsphenamine) as satisfactorily as before that drug is used, so I do not see that its use in any way affects either of these remedies. I usually use both of these preparations by mouth, though I have no objection to their use either hypodermically or intravenously.

"In one particular case, which I saw in consultation, the patient was moribund. I suggested the use of Mervenol, intravenously, although I did not expect the patient to live long enough to obtain any effects. As improvement set in immediately, I recommended the continuation of the intravenous injections. The patient recovered promptly and uneventfully.

"The arsenic in these preparations seems to be less toxic than the usual preparations and the result fully as satisfactory as that from any

preparation which I have used. Considering the mercuric contents of these preparations, they are somewhat more active than other mercuric preparations and somewhat less toxic. I regard them as a useful and satisfactory means of giving mercury and arsenic in cases which call for the administration of these drugs. I have not found, however, that they are indicated in any case where one would not use them under ordinary circumstances and they perform no miracles which you would not expect them to do, with the possible exception of pneumonia."

Dr. F. C. Brooke, of Philadelphia, made a personal experiment with the toxicity of colloidal copper sulpharsenite, several years ago, by taking 20 cc. intravenously. He reported that, following this dose, he experienced, after two hours, slight headache and nausea, with a burning pain in the small intestine. His temperature rose to a maximum of 102°F. at the end of three hours. At the end of eight hours he was entirely normal. At no time was he seriously incapacitated.

Dr. Brooke felt that the proper intravenous dose of Armervenol, in treating syphilis, should be 1 cc. for each 10 pounds of body weight.

In reporting clinical results it may be well to begin with the type of cases which is best known and has previously been reported<sup>2</sup>. These are the acute respiratory cases.

#### LOBAR PNEUMONIA

Almost 200 cases of pneumonia were treated with Mervanol, during two years, by Dr. Charles G. Morris, of Detroit, with only one death (this sounds incredible, but is so reported), although many of his patients were ignorant foreigners who did not take kindly to hygienic measures. Out of 21 additional cases, seen during the same period, in which Mervanol was not used, 9 (43.3 percent) died.

The patients received 1 cc. of the drug each day, injected intramuscularly in the gluteal or deltoid region, and, if the case was severe, they were also given 5 to 20 drops in warm water, by mouth, every 1 to 3 hours, according to the age of the patient and the gravity of the case.

Two cases deserve particular mention. One patient was suffering from the third recurrence of pneumonia and appeared to be moribund. The temperature was 97°F.; respirations 50 to 60 per minute and very irregular; skin cyanotic; extremities cold.

When seen, in the morning, he was given 1 cc. of Mervanol, intravenously, and 4 cc. was ordered to be given, by mouth, every 2

hours. Heat was applied to the body and frequent hot drinks ordered.

In the evening he was resting and sleeping; temperature 103°F.; respirations 40; hands and feet warm.

The next morning he felt much better; temperature 102°; respirations 55 and regular. Another intravenous injection of 1 cc. of Mervanol was given and the oral doses continued. Liquid food was given. In the evening the temperature was 100°; respirations 30; pulse 90, full and regular. The patient wanted to sit up.

The following morning (48 hours after first visit), temperature 99°; respirations 28. Oral doses of Mervanol were continued, every 3 hours. He was given solid food without Dr. Morris' knowledge but with no ill effects.

On the third day he sat up in a chair; on the fifth day he went down stairs; the following week he returned to work feeling well, and so continued.

The other patient was a baby of 8 months who had been given up to die. The temperature was 96°F.; extremities cold; face cyanotic and mottled; respiration gasping.

One-half (0.5) cc. of Mervanol, with 1/120 grain (0.5 mgm.) strychnine, was injected intramuscularly and 5 minims (0.325 cc.) ordered given by mouth every 2 hours.

After 3 hours the temperature was 105.6°F.; the mottled appearance was gone; the breathing was better. After 8 hours, temperature 102°; respiration good; child sleeping. After 16 hours, temperature 99°; respirations 28; child comfortable. Recovery was prompt and complete. No other medication was used.

Dr. Morris observed no evidences of toxic effects nor of irritation, either from oral doses or injections, except in one case, where an injection was followed by considerable pain.

Dr. C. W. Morey, of Detroit, has reported two cases of typical lobar pneumonia treated with Mervanol. The first received 1 cc. hypodermically and subsequent doses after 8 and 12 hours and on the two succeeding days. The temperature fell from 104°F. and the pulse from 120, to normal, within 72 hours after the first dose and the patient was up and about a week after he was first seen and at work two weeks later.

The second patient was given 1 cc. of

Mervenol, hypodermically, each day, from April 16 to 21, during which period the temperature fell from 105°F. and the pulse from 120, to normal. Discharged as "well," April 29, 1927.

The following is an extract from a report made by Dr. James W. Hawkins, 1st Lieut. M.R.C., then serving at Ft. MacArthur, San Pedro, Cal.:

"When I received the Mervenol I was ward surgeon in a ward of forty beds. There was one patient who was in far from an encouraging condition. He had a double, lobar pneumonia which at this time was unresolved. He was losing strength each day and I called in Lieuts. Browning and Fahy (who are on the special tuberculosis survey board) and they thought that the man probably had a miliary tuberculosis stirred up by the pneumonia. Their prognosis was very grave.

"I started Mervenol on March 22nd. On March 26th he sat up in bed. On March 28th he was up and walking around.

"I would also like to report a case of Private Moore who came in with a temperature of 104.6°F. Capt. Dimon called me in and we pronounced it a case of lobar pneumonia of the right side. Capt. Dimon wished to give anti-pneumococci serum, but I prevailed upon him to let me take the case for twelve hours. At 5:30 P.M. I gave 5 cc. of Mervenol, intravenously, and 15 minims, by mouth, every two hours, and gave instructions for the nurse to take the temperature every two hours. This was the chart the next morning:

	Time	Temperature	Pulse
March 28—	5:30 P.M.	104.6	100
	8 P.M.	104	100
	10 P.M.	102	100
	12 Mid.	103.2	98
March 29—	2 A.M.	102	90
	4 A.M.	101.4	94
	6 A.M.	100	80
	8 A.M.	99.4	80
March 30—	4 P.M.	99	80
	8 A.M.	97.6	70
	4 P.M.	98.6	64
	8 A.M.	98	70
March 31—	4 P.M.	99	60

"This seemed almost too good to be true. The man's temperature went to subnormal and Capt. Dimon ordered its use stopped."

Dr. Peter J. Latz, of Chicago, reported a case of influenza complicated by lobar pneumonia. Patient admitted to hospital, Oct. 5, with a temperature of 104°F.; right lung consolidated and left involved; copious rusty sputum; leukocytes, 3,000.

Intramuscular injections of 1 cc. of Mervenol were given every 8 hours for 3 days, and 25 drops by mouth, in a glass of hot water, 5 times a day.

On Oct. 8 the temperature was 100°F. and the leukocytes 10,000. On the 9th the temperature, pulse and respirations were normal.

Two cases of bronchopneumonia were reported by Dr. Gerald Wilson, of Detroit, in which highly satisfactory results followed the oral administration of Mervenol, every 3 hours. (Full details are given in the complete reports on file).

An interesting case of post-operative pneumonia, in a young woman, was reported by Dr. Van Baalen, of Detroit, as follows:

"Case was one of post-operative pneumonia, temperature ranging 104° and 105°F.; pulse 120 to 150; had to be propped up by pillows to maintain respiration. Eyes staring and almost fixed; extremities cold and generally in a desperate condition. All previous treatment of no avail. Was given Mervenol, 20 minims every two hours night and day. At the end of twenty-four hours the temperature dropped to 101°; pulse about 100; but at this time the supply ran out and it was twenty-four hours before they obtained more. Immediately following the non-administration of the Mervenol, the pulse and temperature climbed up again until it was nearly where it was before. By this time a new supply of the chemical was obtained and administered as previously, with the result that the pulse and temperature and all the symptoms gradually became normal, until the patient, within a few days, was discharged, cured, from the hospital."

Drs. C. W. Morey and C. G. Morris, of Detroit, and Espy L. Smith, of Chicago, reported severe cases of pleurisy with effusion, treated with intravenous (1 to 4 cc.) or intramuscular injections of Mervenol, with prompt and positive results.

#### SEPSIS

If Metchnikoff's theory of immunity is valid, cases of severe infections and of general sepsis should respond promptly and satisfactorily to treatment with drugs which stimulate leukocyte production, such as the colloidal sulphides. That this actually occurs is indicated by such reports as the following:

Case 1: Mr. F. P. (Reported by Dr. M. D. Good, Detroit, Mich.)

This case began with a small infection, or abscess, in the right axillary region, which continued to grow larger and larger until the whole pectoral region, anteriorly; the arm, as far as the elbow laterally; and the scapular region, posteriorly, were involved.

When admitted to the hospital, these areas were very extensively undermined by a burrowing, suppurative process. Pressure in any of these regions would cause a spurting of pus from the initial lesion.

After a few days with no improvement, there was a gradual decline of health until the patient was terribly emaciated and weak and apparently in a hopeless condition. The attending physician requested the mother to take him home to die, as further stay in the hospital would only



mean added expense and serve no good purpose. At the same time the mother was instructed to give the patient Mervenol, 20 minims every 2 hours, night and day.

About six weeks later the patient walked into the hospital and was so much improved that his only remaining condition was a slight discharging abscess under his arm. He later entirely recovered.

Case 2: (Reported by Dr. E. R. Arn, Dayton, Ohio.)

Injured finger, with lymphangitis of arm and enlarged gland in axilla, the size of an English walnut. Had had two chills; temperature following these, 104°F.

April 20: Incision; wet dressing with alcohol. Five (5) cc. of Mervenol given, intramuscularly, at 2 P.M.

Next morning at 9 A.M., temperature 100°; redness less; some drainage.

April 21: Five (5) cc. of Mervenol, intravenously; 20 drops, every 3 hours, by mouth.

April 22: Temperature 99° (highest). Three (3) cc. Mervenol, intravenously.

April 23: One (1) cc., intravenously; oral dosage the same; temperature normal. Uneventful recovery on the 25th.

Case 3: (Reported by Dr. C. H. Stiles, Detroit, Mich.)

Housewife; age 30; one child.

Complaint: Weakness; easily tired; dyspnea; loss of appetite; insomnia; gastric disorders; murmurs in ears. Had had all her teeth extracted for "pyorrhea."

Examination: Emaciated; anemic; marked dilatation of heart; temperature, 103°F.; pulse 120. Blood count: Hemoglobin 30 percent; red cells 900,000; white cells 10,000; differential count, slight increase in lymphocytes. X-ray study revealed three broken tooth roots, with pus at apex of each; also necrosis of the lower maxillary bone. (The dental conditions were treated surgically.)

Admitted to hospital Thursday night. Friday morning, unconscious; right side hemiplegia; loss of activity in pupils; reflexes diminished; stools involuntary; had to be catheterized.

Saturday P.M., patient practically moribund; given up and undertaker notified.

Accidentally, Mervenol was brought to the attention of the attending physician. A supply was secured at midnight and 2 cc. given, intravenously, repeated every six hours.

Within 24 hours she was able to talk. She

gradually recovered. Her red blood count went up to 3,400,000. She went home and steadily gained in strength.

Case 4: (Reported by Drs. Wm. H. Ross and G. F. Hale, Detroit, Mich.)

Miss C.; trained nurse; age 31.

Following very acute bronchial catarrh or "grippe," the patient developed mitral regurgitation; rapid, slightly irregular pulse; slight edema of lungs; dizziness; shortness of breath; pain in precordium; loss of appetite; weakness.

After fifteen weeks' rest and routine treatment, under one of the best internists of Detroit, the patient tried to resume work on half time, but soon commenced to lose weight and strength and became despondent. Temperature 99.5°F.; pulse 90; marked heart murmur with moderate broken compensation.

At this time all previous medication was discontinued, and Mervenol given instead—1 cc. intravenously, daily, and 20 drops, by mouth, every three hours, for three weeks; then one dram by mouth, three times a day, until discharged.

After one week on Mervenol, the patient felt better and stronger. Four weeks later, the murmur was almost inaudible, and exercise was begun. Five weeks later she went to work (half time) with normal temperature and pulse. She gradually regained her normal weight.

Thirteen weeks after the beginning of Mervenol treatment, the patient was discharged and has had no symptoms since and no other medication after Mervenol was begun.

#### SYPHILIS

Many reports on the use of Mervenol and Armervenol in the treatment of syphilis have been received, the largest group being from Jefferson Hospital, Philadelphia. These reports were made by Dr. W. H. Kinney, chiefly, and a few by Drs. McDowell, Gartmann, Atkinson, Treacy and others.

A number of these reports are incomplete, and in others the treatment was not continued sufficiently long to warrant an opinion of its value. The results in 21 cases, records of which are reasonably complete, are tabulated below.

#### JEFFERSON HOSPITAL CASES OF SYPHILIS

NO.	DIS.	TREATMENT	SYMPTOMS	WASSERMANN	REMARKS
1.....	S2+4	Ar. m15 t.i.d. Ar. 2x3 cc. and 12x5 cc. 36 days	Relieved Feels well	+1 after 30 days	
2.....	S3+4	Ar. m20 t.i.d. Ar. 9x5 cc. and 1x8 cc. 23 days	Relieved after 5 days	Neg. after 9 days	Did not return
3.....	S1+3	M. m20 t.i.d. 5 days Ar. 13x5 cc. and 2x10 cc. 30 d.	Gone in few days	Neg. after 19 days	

NO.	DIS.	TREATMENT	SYMPTOMS	WASSERMANN	REMARKS
4.....	Latent S +3	Ar. m20 t.i.d. 32 days Ar. 7x5 cc. 6x8 cc. 8x10 cc. 48 days	Better but not wholly relieved	4/18 — 4/25 +2 5/2 +2 5/16 +3	Rest for 2 wks., then Wassermann
5.....	S2+4	Ar. m20 t.i.d. Ar. 2x5 cc. 1x8 cc. 5x10 cc. 1x2.5 cc. 38 days	Improved	5/2 +1 5/6 +3	
6.....	+1	Ar. m30 t.i.d. Ar. 11x5 cc. 36 days		5/5 +1 5/20 +1	To return June 24th
7.....	Nasal S +3	M. m15 t.i.d. Ar. 2x3 cc. 3x5 cc. 1x10 cc. 14 days	Relieved	4/29 +4	Has not returned
8.....	S1 Neg.	Ar. intravenously Ar. 8x2 cc. 1x5 cc. 26 days	Sore healed	Negative	Discharged
9.....	S2 Neg.	Ar. m30 t.i.d. Ar. 10x5 cc. 31 days	Relieved	5/2 +3 5/16 +1	
10.....	Mixed +4	M. m30 t.i.d. Ar. 9x5 cc. 1x2 cc. 24 days	Much improved	4/25 +4	
11.....	S1+4	Ar. 6x5 cc. 1x6 cc. 3x2.5 cc. 37 days	Improved	4/25 +4	Has not returned
12.....	S3+4	Ar. m15 t.i.d. Ar. 1x3 cc. 6x5 cc. 10x2.5 cc. 61 days	Relieved	4/26 +4 5/9 +3	
13.....	S3+2	Ar. Ar. 9x2 cc. 1x1 cc.	Much improved	5/2 +2	
14.....	S1 Mixed Neg.	Ar. m20 q.i.d. Ar. 7x2 cc. 7x4 cc. 17 days	Sore healed	5/9 Neg.	Discharged. Cir- cumcision rec- ommended.
15.....	S2+4	Ar. 11x4 cc. 3x10 cc. 35 days	Relieved	5/17 +2 6/7 +1	
16.....	S2+4	Ar. 7x4 cc. M. 2x4 cc. 1x8 cc. 21 days	Relieved	5/19 +2 6/9 +1	
17.....	S2+2	M. m20 q.i.d. Ar. 10x3 cc. 3x6 cc.	Much improved	5/13 pos.	
18.....	S1+3	Ar. 1x2 cc. 4x3 cc. 4x4 cc. 30 days	Much improved	5/20 +3	Patient to rest until June 18th
19.....	S1 Spir. pos.	Ar. m20 q.i.d. Ar. 9x3 cc. 1x10 cc. 1x5 cc. 16 days		6/21 Spir. neg.	Wassermann neg.
20.....	S1	Ar. 10x4 cc. 13 days	Improved	5/29 pos.	Spir. pos. Wass. neg.
21.....	S3+4	Ar. 5x2 cc. 6x5 cc. 15 days	Little change	6/9 pos. 6/23 +4	Eyes affected

Legend: Primary, secondary and tertiary syphilis are marked S1, S2 and S3, respectively. Results of Wassermann test are noted as +1, +2, +3, +4.

M = Mervenol.

Ar = Armervenol.

Size and frequency of doses and length of treatment are noted by symbols; thus (see Case No. 1). Symbols means: Armervenol, 15 minims, by mouth, three times a day. Armervenol, intravenously, 2 injections of 5 cc. each and 12 injections of 5 cc. each. Length of treatment, 36 days.

These results, while totally inconclusive, are suggestive. Symptomatic improvement was rather prompt and satisfactory; serologic results were not marked, except in 2

or 3 cases. Reports from other sources are somewhat more encouraging but do not differ materially from those tabulated.

Most of the patients had no unpleasant

symptoms following the use of Mervenol and Armervenol, but after the intravenous injections some of them complained of headache or nausea and vomiting. A few developed slight stomatitis and one a moderate dermatitis.

It seems probable that these drugs may be of value as alternates or adjuvants to the arsphenamines, bismuth and mercury in the treatment of certain cases of syphilis. Additional remedies in this disease cannot come amiss.

#### RHEUMATISM

Cases of acute articular rheumatism do not always respond promptly to the salicylates, and in some cases there are contraindications to the use of these drugs. In such cases an alternative remedy should prove useful.

Drs. George F. Hale, of Detroit, and Peter Latz, of Chicago, have reported typical cases of acute rheumatic fever (one case was complicated by endocarditis), where the salicylates failed or were contraindicated, which responded well to 20-minim (1.3 cc.) doses of Mervenol, given by mouth, from every 2 hours to 4 times a day.

Dr. James Barnes, of Cicero, Ill., has reported 2 cases of chronic rheumatoid arthritis treated with Mervenol. One of these reports follows:

*Case of K.K.S.; male, laborer; age 36; has had several rheumatic attacks during his life.*

In this attack, ordinary treatment with salicylates, colchicum, etc., for two weeks, caused no improvement; ten days of alkaline treatment were without result; "rheumatic" vaccines, given for two weeks, did not help him. The patient was exceedingly emaciated when seen.

Mervenol, in doses of 2.5 cc. was given, intravenously, every 3 days for 5 doses; also 40 minims, in water, by mouth, three times a day.

After 3 days decided improvement was seen. At the end of three weeks the patient was out of bed and had an enormous appetite. No mercurial symptoms appeared, even after the prolonged administration of Mervenol.

#### SKIN ERUPTIONS

Several cases of obstinate skin eruptions have been reported. The two following are of special interest.

*Case of Baby S.; age 8 months; female; father and mother alive and well; past history negative.*

*Complaint:* Irritable, resisting eruption and scaling of the skin. Onset two months after birth, being a sero-papular eruption, primarily discrete, coalescing shortly after appearance and forming dry, scaly scabs. Skin was markedly red. Treatment under seven or eight physicians. Antisyphilitic treatments of no avail. (Case sus-

piciously luetic, but never clinically proven positive.)

Armervenol was employed by mouth, 3 minims every 3 hours, in a little water, from March 21 until April 30. At the end of first week marked improvement was noticed, in the form of a reduction in the process of the disease and evidence of clearing of the skin. At the end of the second week, the skin showed only a reddening, with a few slight scales. After three weeks of treatment, the scales had disappeared and the area of redness was beginning to diminish.

The patient continued to show similar improvement for the next several weeks and at the present date, while the patient is still under treatment, medication has been reduced in dosage to two minims three times a day. The skin has completely cleared up and evidences of former lesions have almost disappeared, showing only a few small, slight patches of redness of the epidermis, hard to detect. The patient is practically cured.

August 4, 1917, the patient was discharged by Doctor Morey.

Signed, George F. Hale, M.D., Detroit, Mich.

*Case of Mrs. A.; very obese; age 79.*

"She refused to grant me either a blood test, a laboratory urine analysis or a physical examination. I had to rely on what other doctors have claimed to have proven a 'rose cancer,' situated on the end of the nose.

"On consulting me, and my telling her that it would be guesswork in my treating her case, she said she preferred to have me guess and have her treated than continue the things that have been done for her.

"When we began the treatment, the end of the nose was much swollen; the disease itself occupied the upper end of the nose. It covered an area of about  $\frac{1}{2}$  inch in diameter; was very red and inflamed; and gave evidence of early breaking down.

"She said several physicians of good repute had diagnosed 'rose cancer,' and had expressed very little faith in the ultimate success of their treatment.

"I began giving her Aurol in gradually increasing doses, as recommended. In about two months the inflamed areas began to recede. In three months it was not larger in diameter than a dime and had gone down to about the level of the other tissues of the nose.

"A third month on the remedy reduced the supposed 'rose cancer' to a very slight, pale-pink discoloration on the end of the nose.

"I am of the opinion that the diagnosis by the other physicians of the 'rose cancer' was correct; however, this slipshod method of diagnosis would hardly be considered of much value.

"The second case was that of an elderly woman of 70 years. A similar diagnosis having been made by four other physicians, one of whom had treated the case for many months, with some beneficial results.

"The disease was situated in the upper part of the left ear; the helix, cartilage and all tissues down to the scapha and fossa triangularis were gone, down to the level with the antihelix, the tissues having been entirely eroded—or, to put it simply, she had but half an ear.

"After an ineffectual effort to obtain a thorough picture of the case and a laboratory test, I finally agreed to treat her with Aurool.

"The treatment has now continued over a period of eight months. I have seen the patient but three times during that time, but receive weekly reports from her children, the last one of which was that the entire diseased area had ceased to suppurate and was apparently mummifying."

Signed, F. G. de Stone, M.D., Modesto, Calif.

Dr. A. E. Bertling, of Chicago, has reported a case of psoriasis which cleared up in 6 weeks, following 12 intravenous injections of 1 cc. of Armervenol, given during that period, together with 1 cc. doses of the same drug, by mouth, every 3 hours.

#### USES OF LUNOSOL

Dr. J. H. F. O'Neil, of Chicago, reports the following cases in which Lunosol was used:

Case 1.—Mrs. H. S.; age 58; housewife.

History: Feeling of stuffiness in nose for some time; dripping of mucus in the throat; foul odor coming from nose; nose stops up, first one side then the other.

Nose and sinuses: Mucous membrane pale, covered with tenacious mucus; external tip of nose enlarged and red; postnasal discharge.

Treatment: Postnasal irrigations with warm saline solution, followed by postnasal irrigation of an aqueous solution of Lunosol, 1 percent. Internally, Armervenol, gtt. xx (1.3 cc.), t.i.d. Treatments twice a week.

The patient, while not yet fully cured, states that she is enjoying the best health she has had in years.

Case 2.—J. H. F.; male; age 4 days.

General eye history: Two days after birth the lids were swollen, red, difficult to open; discharge in both eyes.

Diagnosis: Ophthalmia neonatorum.

Treatment: Irrigations with boric acid solution; Lunosol, 10 percent, gtt. 1 in each eye, t.i.d. Baby fully recovered in 2 days.

Case 3.—J. W. S.; male; age 52; laborer.

General eye history: Has had trachoma for the last ten years.

Present eye symptoms: Severe conjunctivitis; trachomatous pannus; small corneal ulcer.

Diagnosis: Trachoma.

Treatment: Atropine; fomentations; Lunosol, 10 percent, gtt. 1, t.i.d. Patient made a rapid recovery from pannus. Ulcer healed nicely and to date there has not been a recurrence.

Case 4.—M. D.; female; age 55.

History: Following influenza she had a discharge from both ears. Fair-sized perforations were present in both tympanic membranes. Hypertrophied tonsils and adenoids were noted.

Treatment: Irrigations of boric acid solution; Lunosol, 10 percent, gtt. ii in each ear, t.i.d. After 20 days, the discharge entirely ceased and the perforations were healing nicely.

Case 5.—W. D.; male; age 3.

History: Following influenza he had a dis-

charge from both ears. A perforation in the left tympanic membrane was enlarged. Hypertrophied tonsils and adenoids were present.

Treatment: Irrigations of boric acid solution; Lunosol, 10 percent, gtt. ii in each ear, t.i.d. The discharge entirely ceased after 19 days and the perforation was healing nicely.

Case 6.—D. D.; female; age 7.

History: Following influenza there was a discharge from the right ear, with a small perforation, which was enlarged. Hypertrophied tonsils and adenoids were present.

Treatment: Irrigations of boric acid; Lunosol, 10 percent, gtt. ii in ear, t.i.d. Uneventful recovery after 15 days.

Case 7.—G. K.; female; age 4.

History: Had scarlet fever two years ago; developed "running ear" at that time, which has been discharging ever since. Tonsils and adenoids removed one year ago.

Treatment: Ordinary methods used for 6 weeks, with no improvement. Irrigation with boric acid solution, followed by instillation of 10 percent Lunosol, three times a day was started. Two months later the patient was discharged, absolutely cured. Whispered conversation was heard at 3 feet.

Armervenol was given, internally, gtt. vi, (0.4 cc.) t.i.d., before meals.

Case 8.—D. O'M.; female; 2 weeks.

General eye history: One day after the baby was born, the mother noticed a discharge (slight) from both eyes. Silver and irrigations were tried, with no effect.

Present eye symptoms: Slide and cultures showed numerous gonococci; right cornea dull and hazy; very profuse discharge from both eyes.

Treatment: Irrigations with boric acid solution, followed by one drop of Lunosol, 10 percent, in each eye, t.i.d. The baby fully recovered in 9 days.

#### AUROL IN ALCOHOLISM

Dr. F. F. Ehlers, of Oak Park, Ill., has reported four cases in which Aurool was used for the relief of alcoholism. In all cases, 15 minims (1 cc.) of the solution were given, in water, by mouth, three times a day.

Case 1.—The patient has been in the habit of taking 10 to 15 drinks of whiskey a day for some time. On examination, the liver was palpable 4 inches below the costal margin. Has now been taking Aurool for 3½ months and has drunk no liquor during that time.

Case 2.—The patient has been under treatment for 6 months, with only one relapse, if it may be called such. He had an attack of influenza, during which his friends gave him whiskey and quinine, which made him ill.

Case 3.—This patient had taken two "Neal cures", without success. He began taking Aurool about 18 months ago and continued for several months. Has had only one relapse, which caused him to be very ill for two days.

Case 4.—This patient took treatment with Aurool four years ago and has had only one relapse, about one year ago, during which he was very ill. He now declares that even the smell of liquor is disgusting to him.

## MISCELLANEOUS CASES

Dr. Charles G. Morris, of Detroit, Mich., reports excellent results from the use of Mervenol in *whooping cough*.

One case was that of a baby 2 weeks old, who had a very severe attack. One intramuscular injection, in the buttock, of 0.5 cc. of Mervenol checked the paroxysms in a few hours and the whooping cough ceased entirely after one week.

Dr. Geo. F. Hale, of Detroit, treated a rather typical case of "*Neurasthenia*," showing dorsal and occipital pain, tiredness, insomnia, nervousness and moderate emaciation, by administering 10 minims each of Auro and Arferrol (colloidal arsenic and iron), four times a day.

At the end of 8 weeks, all the distressing symptoms were relieved and the patient had gained 8 pounds in weight.

Dr. C. H. Stiles has rendered a report of an interesting case of *tuberculous adenitis*.

Patient: Mr. C. A.; age 22.

Present complaint: Cervical adenitis.

Family history: Negative.

Physical examination: Patient tall, fairly well nourished; eyes equal and symmetrical and react to light and distance; cyanosis of face, limbs and fingers; tonsils slightly buried; teeth in good condition; no symptoms of pyorrhea; marked inflammation of cervical and submaxillary glands, tender on pressure; clavicles prominent; loss in elasticity of pectoralis, rhomboids, supraspinatus and trapezius muscles; no adventitious sounds in the chest.

Diagnosis: Tuberculous adenitis.

Patient referred to hospital for gland examination, which proved the diagnosis correct.

He was given a nutritious diet, iodides and tuberculin. After six months' treatment, with no result, he was placed on Mervenol, 10 minims (0.65 cc.) t.i.d., and Armervenol, 10 minims (0.65 cc.) t.i.d., alternating. In one month's time, the glands had entirely disappeared and the patient was discharged. He has never returned for further treatment.

## CONCLUSIONS

While, as remarked at the beginning of this article, none of these cases, by itself, can be considered conclusive, nor has anything been proved, according to the strict standards of scientific demonstration, it would seem that sufficient evidence has been presented to show that colloidal solutions of the heavy metals, when administered perorally or parenterally, produce marked beneficial effects in patients suffering from infections and toxemias, and should prove a valuable addition to the physician's armamentarium in treating such conditions.

Quite recently, interesting clinical results from the use of *colloidal mercury sulphide* have been reported by Du Bois, in the treatment of syphilis<sup>3</sup>, and by Ferguson, as a stimulator of phagocytosis<sup>4</sup>, and several personal communications have indicated that this preparation has rather unusual powers in reversing the serologic findings in cases of "Wassermann-fastness." More material along this line will, no doubt, appear in the near future.

It is hoped that these reports will arouse the interest of some of the men who have complete laboratory and hospital equipment at their disposal so that they will investigate these remedies carefully, keeping an accurate and scientific check upon the results obtained.

## REFERENCES

- 1.—Ferguson, Burr: The Leukocytes in Infection and Immunity. CLIN. MED. AND SURG., Sept., 1927, p. 585.
- 2.—Hille, Hermann: Colloidal Sulphides in Medicine. CLIN. MED. AND SURG., Jan., 1927, p. 28.
- 3.—Du Bois, Leo, C.: Colloidal Mercury Sulphide. Hille. CLIN. MED. AND SURG., Aug., 1929, p. 538.
- 4.—Ferguson, Burr: Colloidal Mercury and Phagocytosis. CLIN. MED. AND SURG., Dec., 1929, p. 681.

110 N. Franklin St.

## VISION

Vision plays an important part in business success. The man who looks not only ahead, but all around him, will see opportunities that are entirely missed by men engrossed in the petty routine of immediate affairs.

Without vision, ideals are impossible. The spirit of service, the sincere intent to earn one's way in the world, the earnest endeavor to deliver just a little more than is expected—these are products of vision. It takes vision to see that a business is built, not of single orders, but of customers. Customers can be carved only from the solid rock of service.—Pulvoids News.



# THE SEMINAR

CONDUCTED BY

MAX THOREK, M.D. (Surgery)

GEORGE B. LAKE, M.D. (Medicine)

[NOTE: Our readers are cordially invited to submit fully worked up problems to the *Seminar* and to take part in the discussion of any or all problems submitted.

Discussions should reach this office *not* later than the 1st of the month following the appearance of the problem.

Address all communications intended for this department to *The Seminar*, care CLINICAL MEDICINE AND SURGERY, North Chicago, Ill.]

## PROBLEM NO. 2 (SURGICAL)

Submitted by Dr. J. R. Sturre,  
Minneapolis, Minn.

(SEE CLIN. MED. & SURG., FEB., 1930,  
P. 126)

*Recapitulation:* Patient a mentally defective girl, 15 years old. Father died of tuberculosis; appendectomy 2 years ago for acute appendicitis, with recovery; raped by middle-aged uncle one year ago.

Came complaining of pain in left, lower quadrant of the abdomen for 2 months. This region is extremely tender to pressure and the patient lies in a flexed position. Bimanual examination, negative; general laboratory examination essentially negative.

Cystoscopy showed the left ureteral orifice of pin-point size, situated on the apex of a papilla. A ureteral catheter was passed on the third day, after several unsuccessful attempts, and met no obstruction above the orifice. Catheterized urine, normal.

A pyelogram was made, and is shown as Fig. 1.

*Requirement:* Suggest diagnosis and treatment.

DISCUSSION BY DR. J. R. SMITH,  
WARSAW, MO.

Case No. 2, of Dr. Sturre is very interesting from several points of view. First,

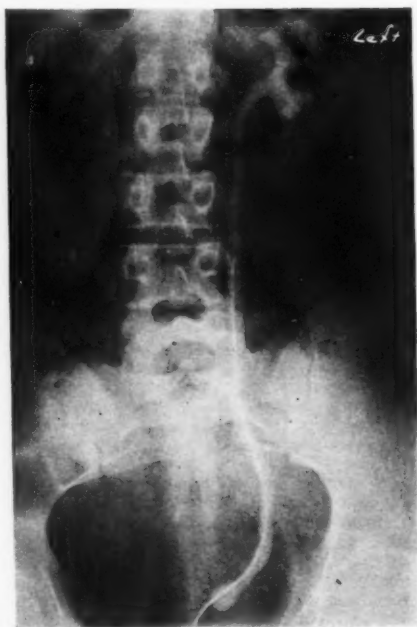


Fig. 1.

the over-enlarged ureter, as shown in the negative, from kidney to bladder, would look like the result of irritation and some inflammatory condition, yet the history in this condition shows nothing of the kind, even to the entering of the catheter with no pain. Might this condition not be simply an over-developed ureter normally, or possibly from some other cause, as a reflex from the ovary or tube?

The history of the case points conclusively, to me, to salpingitis, with a possible ovaritis, tending to a pyosalpinx, which would be my diagnosis.

Treatment will be rest in bed, with the free use of iodine and glycerin (50-50); cold packs, externally; 2 grains (130 mgm.) of calcium sulphide, 1 grain (65 mgm.) of echinacea, 10 grains (650 mgm.) of quinine sulphate, in a capsule, every 4 hours; saline laxatives; light nourishment. Watch for changes. If a sudden, severe rigor, rise of temperature and profuse sweating occur, rush her to the operating room and remove the pus. If these conditions do not develop, nature will do the rest and the patient will recover.

The uncle who raped this girl a year earlier, probably carried in some form of infection.

DISCUSSION BY DR. E. C. JUNGER,  
SOLDIER, IA.

This girl, not being very bright, might have experimented with something or someone else besides her 52-year-old uncle. Why drag him in? He did do something a little irregular, to our way of looking at it out here, but it had no bearing on the case at hand.

I believe that girl spent a good deal of her time masturbating, using anything stiff she could get hold of, and probably bruised or punctured the bladder wall or anterior culdesac, and the ureter irritation is due to some foreign body in the bladder neighborhood. Could a needle have been left in the abdomen in 1928? That ureter certainly is trying to get rid of something.

So much pain and tenderness in the lower abdomen should justify an exploratory laparotomy. (The uncle might pay the bill.)

DISCUSSION BY

DR. LEO C. DU BOIS, CHICAGO

The problem submitted by Dr. Sturre is difficult of solution because of the lack of detail and the apparent contradictions in physical findings; to wit:

*Duration, 2 months:* Was the onset sudden or gradual?

*Symptoms:* Pain, character not given. Was it constant or intermittent? Sharp or dull? Localized or transmitted?

*Physical Examination:* He states that deep palpation was impossible because of tenderness. How could a satisfactory bimanual examination be made?

*Cystoscopic Examination:* He states that the left ureteral orifice was pin-point size; also the pyelogram showed that the uretero-

vesical junction, at its orifice, was greatly dilated.

Interpreting as best one may, under the circumstances, I should say that the condition was a stricture of the ureteral orifice, with a dilated ureter due to back-pressure, not complete enough nor of long enough standing to cause any evident dilatation of the kidney pelvis.

*Treatment:* Dilatation of the orifice with dilating ureteral bougies. If this is not effective, incision of the orifice, followed by dilatation. The papilla noted is caused by the dilated ureter and will disappear under treatment.

This solution does not explain the very marked tenderness and pain, which, with a history of rape, might well be a left tubal inflammation with adhesions, pressure or both, causing the ureteral condition.

DISCUSSION BY DR. WINFIELD SCOTT PUGH  
NEW YORK CITY

A careful examination of the history given by Dr. Sturre leads me to suspect that he is dealing with a condition known as *ureterocele*, with some probable pelvic inflammatory lesion as a cause.

The treatment for this condition is fulguration.

CLOSING DISCUSSION BY DR. MAX THOREK

This problem is not a simple one and must be studied from various angles. There are many conditions that would give rise to irritation of the ureter. As Dr. Smith justly suggests, the appearance of the ureter in the pyelogram may be the result of irritation, or reflexly from some inflammatory condition. The underlying lesion may be of the ascending or descending type. In other words, it may result from some focus of infection from the urogenital canal traveling cephalad, or some form of renal disorder which is reflected along the ureter toward the bladder.

An analysis of the case suggests the possibility of some form of ureteral spasm of reflex origin. It is well known that ureters will normally vary in caliber. Studies at all periods of pre- and post-natal life have revealed four levels at which the ureter is narrow and three where it is wider. These are well illustrated if one takes the trouble to study the specimens of new born children and ureteral pyelograms of normal infants, as well as those of adults.

Ureteral spasms or peristalsis raise a ques-

tion that must be taken into consideration in deciding whether or not an abnormal narrowing is present upon instrumental examination. I have always made it a practice, in spasms of hollow tubular viscera, such as the esophagus, intestines, urethra, ureter, etc., where the etiology is obscure and points to a spasmodic contraction on an intrinsically neurologic basis, to put the patient on belladonna therapy, and it is often surprising how these conditions, if not of organic nature, will yield to this treatment. In belladonna therapeutics one must, of course, take the age of the patient into consideration, watch the effects of the drug and keep close check on the symptoms produced.

Dr. Smith thought of the possible involvement of the ureter, secondary to a possible salpingitis. This is a sound thought and must be kept in mind. I feel that, even should the temperature rise, there is no need of immediately rushing the patient to the operating room, for we have learned from experience that the various forms of salpingitis fare better with conservative treatment, and should be operated upon at a time when the condition is not acute, but quiescent.

I agree with the thought that the attack on the girl might, primarily, be the cause of her present condition, resulting either from a direct infection or intracoital trauma to the delicate urogenital structures.

The thought of Dr. Junger, that the state of affairs may be brought on by masturbation should be given thorough consideration. This, however, should not be taken for granted without having definite proof that the condition is actually caused by such practices.

I disagree with the doctor on the justification of an exploratory laparotomy at the present time. I fail to find any indication or justification for subjecting this young girl to an abdominal section. Conservative treatment, as outlined, and a period of observation for a number of months are clearly indicated.

We might think of the possibility of tuberculosis, and under these conditions, it would perhaps be advisable to suggest a search in that direction. (Her father died of tuberculosis).

We must keep in mind that there are cases which look like stricture of the ureters and are only spasms. In these cases, particularly, belladonna therapy gives excellent

results. Some urologists add to this treatment ureteral dilatation, in the same manner as one would dilate an esophagus or urethra for spasmodic stricture. You and I know well, from past experience, that if we try to pass a sound into the urethra of a man, although the urethra may be perfectly normal, a spasmodic obstruction will nevertheless result which spastically prevents the instrument from progressing further. If force is used much damage may be done. On the other hand, if the sound is left in place, the spasm gradually subsides and the instrument glides in as if guided by magic. It may be that a few treatments with a ureteral catheter will be all that is necessary to overcome the spasm, which may be all that is the matter in the case under discussion.

Dr. Du Bois' remarks regarding insufficient data appear to be well taken. This is a suggestion to all of us to watch every point in studying a patient.

His diagnosis is sound and the suggested treatment is worthy of a urologist of his reputation.

Dr. Pugh gives us the view of another well known urologist, whose opinion is worthy of consideration.

It will be interesting to watch the further progress of this case, and I feel confident that Dr. Sturte will oblige us and let us know his results.

#### SOLUTION BY DR. STURTE

A dilating bougie, No. 6, was passed and left in place in the left ureter for one hour. One month later, the same bougie was again introduced and left one hour. After another month, the patient was feeling well and had no pain. The ureteral orifice was again dilated with a No. 6 bougie for 1 hour.

Two months later, the left abdomen was still tender on deep pressure, but there was no more spasm and no complaints. The patient ran and played as other children. The ureteral orifice was again dilated in the same manner.

Five months later, the girl was again examined. She made no complaints and felt well. There was no pain on examination with deep pressure, nor on rectal and bimanual examination, so she was discharged.

**Diagnosis:** Congenital atresia of the left ureteral orifice.

**Treatment:** Repeated dilatation of the left ureteral orifice.

PROBLEM NO. 4 (SURGICAL)  
 SUBMITTED BY DR. N. E. GOBBEL,  
 INDIANAPOLIS, IND.

A woman presents herself with the question of probable pregnancy.

**Present illness:** She has noticed marked enlargement of the abdomen in the past 6 months; shortness of breath; pains in the back; a sense of fullness in the abdomen. She formerly menstruated regularly, 28-day type, lasting for 3 to 4 days. Menstruated on Sept. 22, 1928; the next time was Nov. 22, when she bled about 2 days, and thought she was pregnant and about to abort. She bled next on Feb. 22 and thought she felt fetal movement; then she began to bleed every 2 weeks, with clots at the end, the bleeding lasting 3 days. She still thought she was pregnant; had some pain at each bleeding period; and when she began to bleed on July 6, called in a physician, who examined her, stayed with her about 5 hours, and told her she would be confined in the next 5 to 7 days; 3 weeks later she began to bleed again as before. On July 27 and Aug. 17 she bled again and came to me on Aug. 26.

During this probable pregnancy she had not had morning sickness, as with previous pregnancies, and the breasts were not so full nor sore.

**Marital history:** Began menstruating at 16 years of age (her sisters all began late), 28-day type until present trouble, 3 to 4 days duration; four pregnancies, all going to term and terminating normally; oldest child 19, youngest 8; no miscarriages.

**Previous history:** Ordinary diseases of childhood; had pain in the right, lower quadrant about 1 year ago, which lasted 3

or 4 days. She was nauseated and vomited, had some fever, but did not call a physician. Otherwise no serious illness.

**Physical examination:** A well-developed white woman, 44 years of age, well nourished, with marked enlargement of the abdomen (about equal to a 7 to 8 months' pregnancy). Breasts normal for a multipara; no engorgement of vessels; no discolorations of nipple or areola; soft and flabby on palpation. I was unable to find any fetal parts on abdominal examination, or to locate the fundus of the uterus.

There was a large mass in the abdomen, of doughy consistency, a little more on left side, dull to flat note on percussion. This mass could be moved slightly. **Auscultation:** No fetal heart sounds nor uterine souffle.

**Vaginal examination:** No discoloration of the vaginal wall (Chadwick sign); cervix uteri far back, firm to the touch,  $\frac{3}{4}$  inch in length; uterus movable but the body could not be outlined and does not seem to be connected to the mass above—moving the mass above did not move the uterus. The mass was well up out of the pelvis; the tubes or ovaries could not be palpated.

**Speculum examination:** Showed normal multipara cervix; length of uterine cavity about 2 inches.

**X-ray examination:** No evidence of any fetal bones or abnormalities.

**Laboratory Tests:** Leukocytes, 11,000; 68 percent polymorphonuclears; 32 percent lymphocytes; red blood cells, 4,200,000; hemoglobin, 80 percent. **Urine:** Traces of albumin; a few pus cells per high-power field.

**Requirement:** Diagnosis and treatment.

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### SPECIALISTIC SURGERY

*It does not make any difference what branch of surgery a man enters. He must first of all be surgically inclined by temperament and interest. He must be predestined for surgery through contact or experience, or sometimes quite by accident. Then by his interest, with his fundamental training in surgery, he becomes engaged in the practice of some limited phase of surgery—orthopedics, brain surgery, neurologic surgery, or plastic surgery. But there is no such thing as plastic surgery per se; no such thing as orthopedic or brain surgery per se. It is only the application of those inherent principles of surgery to a particular field, and no man who is not trained in general surgery has a right to engage in any specialty. He should first of all be a physician, and in proportion as he knows and understands internal medicine, just so he becomes a competent surgeon.—DR. F. B. MOOREHEAD, Chicago, in Bull. of the Chicago Medical Soc., Dec. 11, 1929.*

# THE CLINIC

## URINOLOGY

### Oxaluria

By CLIFFORD MITCHELL, M.D., Chicago

THE term oxaluria is a clinical one, applied rather loosely to that condition in which a sediment of oxalate crystals occurs persistently in the urine. It can hardly be regarded as a clinical entity, but rather as part and parcel of some fault in metabolism, resulting from a general condition. Nevertheless, it may give rise, from mechanical irritation of the crystals in the urinary tract, to many and puzzling symptoms, likely to be referred, by both patient and physician, to the digestive tract or possibly even to the nervous system. In certain cases, chronic oxaluria may result in calculus formation.

Case 1.—Male, 22 years of age, apparently healthy; a medical student, pursuing his studies without fatigue or effort, but troubled with inability to retain his urine. When the impulse to urinate came, he would have to void his urine immediately or suffer great inconvenience, or even pain, from retention. During my lectures, it was noticed that he often left the lecture room before the hour was concluded. Being called upon for explanation, because of his frequent absences before the bell rang, he offered as excuse the fact of extreme urgency to urinate. Venereal history was denied, and examinations by several members of the medical college faculty were entirely negative, so the diagnosis was "passed up" as one of general "nervousness", from hard study and possible dread of examination failure.

I became interested in his case and examined, chemically and microscopically, several specimens of his urine. A peculi-

arity of his case was that he seldom rose at night to urinate. Specimens of day urine showed, with the microscope, in all cases, many oxalate crystals of various forms, including unusually large octahedra. Sharp, spiny points were likewise noticed, and also oxalate concretions.

Being questioned as to his diet, I found that, owing to lack of money, he lived largely upon fruits and that apples were a feature in his diet—that he never went a day without eating a few raw apples, and that he greatly preferred sour apples.

I suspected the presence of a stone in the bladder or prostate but, before ordering instrumentation, or even x-ray studies, I suggested that he eliminate oxalate-bearing articles from his diet; namely, apples, bananas, rhubarb and tomatoes, and report again in a week.

He came back in a week and reported that his urinary difficulty had almost disappeared. I again examined the urine and found in it no oxalate crystals. He was told to continue the avoidance of articles rich in oxalates and to watch developments.

He attended my lectures the rest of the college year, and suffered no recurrence during that period.

Discussion.—Such cases as this are rare, for obvious reasons. Few persons live on a largely fruit diet; not every one is fond of sour fruits; not every one has a tendency to deposit crystals in the urine, (especially not women); and not every one whose urine contains oxalate crystals suffers from irritation by them.

But cases occur in which (without



symptoms of irritation) vague pains, indigestion, mental depression and sexual weakness may be features; hence, the persistent presence in the urine of many crystals of various forms may, by careful exclusion, be regarded as of clinical significance and suggest abstinence from articles rich in oxalates, with, perhaps, medication directed toward the supply of hydrochloric acid and the overcoming of carbohydrate intolerance or excessive intestinal fermentation.

**Case 2.**—This case was one of much interest. The patient was a man about 45; thin, sallow, rather undersized, depressed mentally—in fact, “all in”, as he put it.

He had no urinary symptoms at all. The diagnosis of spinal irritation had been made by well informed specialists and he suffered from a persistent backache that had lasted for years. He had made a trip to Europe and had been treated by men eminent as specialists in nervous diseases.

His money was well-nigh gone and he was, if anything, in greater suffering than ever, when a colored elevator man advised him to have his urine examined. Strange to say, no urine analysis had been undertaken, so sure were his physicians of their diagnosis. He dropped into my office “to talk it over with me”, not having money to pay for an examination.

I saw no relation of any urinary condition to his general one, but told him I would be pleased to make a few routine urine tests, without charge, expecting to exclude the urinary tract rather than to find anything of significance. I handed him a container and he passed urine into it. During the act of urination he heard, as he expressed, it “a click” and saw “something” drop into the urine. I held the glass up to the light and beheld in it an object, evidently a calculus, small, hard, warty and very rough. Examination of

the urine itself was practically negative—no albumin, no sugar, no pus, no blood and no crystals. But analysis of the small object showed it to be an oxalate calculus.

The pain from which he had suffered so long gradually wore off. I told him to report to me every now and then, which he did for some three years, but no recurrence of pain took place in that time. Needless to say, he greatly overestimated the value of my service in his case, evidently associating me in some way with the relief experienced by his visit to my office!

**Discussion.**—This type of case illustrates well the association between oxalate conditions and mental depression; though it is, of course, possible that his mental depression had to do with the irritation by the stone in the bladder and with the “high cost of illness”. Nevertheless, it was easy to see that he was of the alleged oxalate “diathesis”—more or less emaciated and of irritable temper\*.

**Conclusion.**—Whatever may be the clinical status of oxaluria (which status has been aptly termed “chaotic”), my observation is that we can hardly afford to “high-hat” it entirely. After failure to identify clinical findings with definite pathologic conditions, a persistent sediment of oxalates, especially crystals of various forms, including large, sharp-pointed octahedra and spiny concretions, warrants definite therapeutic consideration, rather than mere expectancy, psychoanalysis or mental suggestion. It goes without saying that, when pus and blood, together with the crystals, are found, the existence of calculus should be suspected. The tendency of oxalates to form minute calculi must not be overlooked.

25 East Washington St.

\*An association between oxalate sediments and pessimism has been claimed to exist, by various writers, especially the English.

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## PREACHING AND PRACTICE

Most physicians are notoriously inattentive to the ordinary observance of hygienic practices in their own lives and those of their own families, and the public isn't going to be immensely impressed by advice from physicians unless they see physicians practice such procedures in their own families and in those people for whom they are directly responsible.—DR. H. EMERSON, New York, in *West Virginia M. J.*, Oct., 1929.

# CLINICAL NOTES AND PRACTICAL SUGGESTIONS

## Swine's Stomach in Pernicious Anemia

**I**N HEALTH, the picture of a stained film of blood may vary a little, but is always easy to recognize. The red cell is not normally connected with the defense against infection, but may undergo variations and changes, if the resistance of the body to diseases is heavily taxed.

If a smear is taken from the spleen and bone-marrow of a still-born fetus and examined, we find that the cells are the primitive ancestor cells and, even at birth, the blood may contain some intermediate cells between the common ancestor and normal cells.

Every part of the body depends on a supply of healthy, normal blood, and any attack by disease that puts a heavy strain on the organs that produce the cells, may overwork those organs to the point where we find many immature cells in the blood circulation, and the nearer these are, in appearance, to the primitive ancestor cells, the worse the prognosis.

### BLOOD PICTURE OF PERNICIOUS ANEMIA

1.—Megaloblasts are always found in any case of true pernicious anemia.

2.—Normoblasts are always found, but are not so common as the megaloblasts.

3.—Abundance of anisocytes, poikilocytes and, as a rule, some microcytes.

4.—Reduction of red cells, sometimes below 1,000,000.

5.—Color index high, with reduction of hemoglobin due to reduction of red cells, but not so marked.

6.—White-cell count, as a rule, shows a reduction, which is chiefly in the neutrophils.

7.—Lymphocytes may be 50 percent of the white-cell count.

### SYMPTOMS

1.—Glossitis; recurrent sore mouth and tongue.

2.—Lemon-like pallor of the face and lips, which is very striking.

3.—Sensory changes in the nerves of the extremities, often described as numbness or tingling of the hands and feet.

4.—Gastrointestinal symptoms: The patient may have attacks of nausea and vomiting, with attacks of diarrhea, which bring on paroxysms of pain in the stomach and bowels.

5.—Achyilia gastrica is a constant feature, and the gastric secretion is slow to reappear under any kind of treatment.

6.—Slight fever, with increased pulse rate.

7.—Slight edema of the feet, hands and face.

8.—The patient may appear to be well-nourished and may increase a little in weight.

9.—Urobilinuria is a constant finding.

### TREATMENT

Dr. Gradwohl, of the Gradwohl Laboratories, of St. Louis, where I was doing some laboratory work four years ago, said that he had made blood examinations on hundreds of pernicious anemia patients, under all kinds of treatment, and he could not recall a single case of true pernicious anemia, where the treatment did the patient any good, for more than a short time.

Since that time the liver diet and liver extract have been used on enough patients, by clinical trial, to show that it is the first treatment that produces anything like a real cure.

The new dietary treatment, which is the stomach of swine, has been used by a few physicians, and is found to be very satisfactory. It is taken very readily, in large quantities, by a patient—much better than large quantities of liver. A dried extract (Ventriculin) is now on the market.

Any physician who cares to try the new treatment may be able to obtain the stomach of swine from his butcher or from farmers, and should use the following technique in preparing it for use:

Take all the fat off the stomach and wash it clean; put it in a pan in hot water, over a fire until it turns white; dry the stomach and grind it fine in a meat grinder; keep it on ice until used.

#### CASE REPORTS

**Case 1:** This man has been under treatment for two months, with no other medication. He has taken one swine stomach every three days, taking a part of the ground stomach, in fruit juice, three times a day.

##### *Blood Picture Before Treatment*

- 1.—Red-cell count; 1,500,000.
- 2.—Color index; 1.66.
- 3.—Megaloblasts; large numbers found on each slide.
- 4.—Normoblasts; a few on each slide.
- 5.—Anisocytosis and poikilocytosis all over the field.
- 6.—Leukocyte count; 4,500.
- 7.—Neutrophiles; 45 percent.
- 8.—Lymphocytes; 55 percent.

##### *Blood Picture After Treatment*

- 1.—Red-cell count; 6,000,000.
- 2.—Color index; 0.8.
- 3.—Megaloblasts; none found.
- 4.—Normoblasts; a few, but hard to find.
- 5.—Leukocyte count; 5,000.
- 6.—Neutrophiles; 65 percent.
- 7.—Lymphocytes; 35 percent.

All symptoms of pernicious anemia have cleared up, except the numbness of the hands, which he had before treatment.

**Case 2:** Mrs. W. C., age 45 years, came to me for treatment after she had been treated by several physicians, who had advised her husband that the only treatment they thought would do her any good was blood transfusion.

When I saw this lady she showed in-

tense pallor of the skin, and was so weak that she could hardly walk. Numbness of the hands was so marked that she did not know when she had a pin or needle in her fingers.

##### *Blood Picture Before Treatment*

- 1.—Red cells; below 1,000,000.
- 2.—Color index; 1.3.
- 3.—Megaloblasts all over the field.
- 4.—Normoblasts in large numbers.
- 5.—Leukopenia.
- 6.—Lymphocytosis.

##### *Blood Picture After Treatment*

- 1.—Red cells; 4,500,000.
- 2.—Color index; 1.0.
- 3.—Megaloblasts; none found.
- 4.—Normoblasts; few found.
- 5.—Neutrophiles; 60 percent.
- 6.—Lymphocytes; 40 percent.

This lady has been under treatment with swine stomach for two months. She is now able to do all her house work and says she feels better than she has felt for more than a year.

HOMER O. STROSNIER, M.D.,  
St. Francisville, Mo.

#### A Decalogue for the Treatment of Patients\*

**T**HERE are certain general matters in the treatment of patients, apart from strict therapeutic technicalities, which physicians should observe. The following ten points are worthy of consideration:

- 1.—Keep the patient in good condition, physically and mentally. This includes provision of the body with nutritive material (including water and good air) and freedom of the mind from worry and anxiety.
- 2.—In arranging any plan of treatment, always put *non nocere* ("beware of damage") as the first guiding principle.
- 3.—Look out for the comfort of your patient and say nothing that may have a depressing effect.
- 4.—Tell the truth to the family, also to the patient, provided there is no danger connected with his condition. Otherwise keep as near the truth as possible and designate the disease in terms that will not worry or alarm the patient. Always encourage the patient and give him a very favorable prognosis.

\*Taken from *Med. Herald and Physical Therapist*, Jan., 1930.

5.—See that the patient's functions are normal: sleep, urine, stool, appetite, thirst, freedom from pains and discomfort.

6.—If the condition of the patient is not satisfactory, or if the sickness drags along and you are in doubt as to its nature, ask for a consultation, whenever this is feasible.

7.—Never refuse to hold a consultation with some other practitioner, if the family so desires.

8.—In treating patients, one point gained by personal experience is worth more than a host of theories propounded in books.

9.—If a patient is doing well, be satisfied and do not try any additional remedies.

10.—Do not forsake a patient with an incurable malady. He usually requires more attention than a patient on the way to recovery. The convalescent needs the physician occasionally, while the fatally afflicted should be under the constant attendance of the practitioner, who is the only comfort in life left to him.

MAX EINHORN, M.D.

New York City.

### An Etiologic Factor in Hemorrhoids

**H**EMORRHOIDS are a universally "popular" disease, affecting prince and peasant, old and young, rich and poor, without regard to sex, nationality or occupation. The boards of health have taken no measures for its prevention.

The etiology of this condition is no better understood than when phlebotomy was in wide use, nor has the treatment shown any startling advances with the passing years. Itinerant "pile doctors" still infest the rural districts, guaranteeing a cure "without the knife, needle or loss of time." More dignified ones give "courses" in the treatment of piles (for a consideration!) to physicians.

I believe that one of the factors in causing this condition is the careless use of unclean and irritating materials for performing the toilet of the anus after defecation.

Hemorrhoids are more common in men, who are far more careless, in general, about their anal toilet than are women; while a much higher percentage of women than of men are constipated. This suggests that constipation is not so important in the etiology of "piles" as has been generally believed.

On the other hand, I have studied a num-

ber of men who, by reason of their age, body-build and occupations, would be supposed to be particularly liable to hemorrhoids (but who had been very careful with the anal toilet, from childhood on), and have found them entirely free from this affection; while the use of unclean or abrasive material for cleansing the anal region has been more or less habitual in most of my patients who have "piles."

I feel that far too little attention has been given to the matter of cleanliness of the anal region, in regard to the cause and prevention of various lesions in this locality, and should be glad to hear from others who have given this point any consideration.

LEWIS W. SPRADLING, M.D.

Athens, Tenn.

[We feel that Dr. Spradling is in error when he speaks of the large preponderance of male over female patients with hemorrhoids. Most authorities feel that this condition is as prevalent in women as it is in men, but, because of false modesty, they are not so likely to consult a physician for its relief.

One of the most recent books on hemorrhoids (that by Arthur S. Morley, London: Oxford University Press, 1929) gives some space to the very matter mentioned by Dr. Spradling, and even goes so far as to recommend that the anal region be cleansed with soap and water, using absorbent cotton, after every defecation.

There can be small doubt that the careless practices in this regard, which are especially prevalent in rural districts, are a factor (but not the only or the chief one) in the incidence of hemorrhoids.—Ed.]

### Keep Roentgenograms Out of Court

**T**HERE is no more reason why roentgenograms should be brought into court and shown to a jury, than there is for demanding that a pathologist bring in his tissue sections for the same purpose. Not one juror in 1,000 is any more capable of reading a roentgenogram intelligently than he would be of interpreting the evidences of pathologic changes on a microscope slide.

This practice should be stopped.

A. U. DESJARDINS, M.D.

Radiologist, Mayo Clinic

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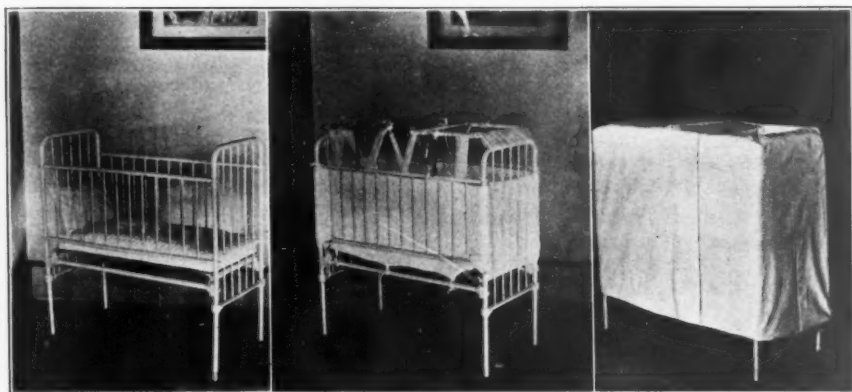


Fig. 1.

Fig. 2.

Fig. 3.

Bed for Premature Infants—Children's Hospital, Detroit.

Fig. 1.—White Enameled Iron Child's Crib, with Mattress and Pad.

Fig. 2.—Sides of Crib Covered with Quilt, Fastened to the Bed at Top and Bottom: Supporting Frame Applied and Fastened over Top of Bed, and Incandescent Bulbs in Place.

Fig. 3.—Tent-Bed Completed with Sheets, Folded and Pinned in Place.

### Bed for Premature Infants

**T**HE care of premature infants and those who are frail or undersized at birth, is a problem at any time, and is especially difficult for the physician who practices where the facilities of a maternity hospital or department are not readily available. Incubators are, of course, for sale, but they are expensive and cannot always be promptly obtained when most urgently needed.

The Children's Hospital of Michigan, at Detroit, has worked out a system which can be easily employed in any hospital, no matter how small, or even in a private home.

The premature bed is made from an ordinary crib, as shown in the pictures (Figs. 1, 2 and 3), the heat being furnished by two carbon-filament incandescent bulbs. The top frame, shown in Fig. 2, should be made of iron pipe, as illustrated, for hospital use, and can be employed repeatedly. For domestic or emergency use, the frame can be made of small strips of lumber. Hospitals should have half a dozen or more of the quilted bands (Fig. 2) on hand: In private practice, an old quilt may be folded or cut to serve the purpose. The final sheets are fastened in place with pins.

When the bed is in use, a thermometer should always be kept inside and *watched*, and the temperature regulated by turning on or off one or both of the lamps.

The room in which this tent-bed is set up should be kept warm and at as nearly an even temperature as possible.

The frail or premature baby is kept in this tent, day and night, until it weighs five pounds or more, except that, twice a week, it is taken out for a brief time, in a *warm room*, for a soap-and-water bath and weighing. The daily ablutions (performed with olive oil) the feedings and all other necessary attentions are given without removing the baby from the tent.

If the baby is still in the tent when the nurse leaves, the mother should be taught the technic of giving this care properly; and, in any case, she should be instructed, in detail, as to the management of a frail infant.

GEORGE B. LAKE, M.D.

Chicago.

### New Ideas on Leprosy

**P**UBLIC Health Bulletin No. 189, from the leprosy research station of the Service in Hawaii, is of interest to all and should be of special value to physicians who are interested in diseases of the skin and of the nervous system.

Leprosy is by no means always the repulsive condition that it is traditionally regarded as being, but often the signs and symptoms are so slight or so indefinite that great discrimination is required, on the part of the physician, and perhaps he may require repeated examinations, before coming



to a decision in some cases. The microscope is often of value as an aid in making a diagnosis.

The general public is accustomed to regard leprosy as abhorrent in every respect; whereas in fact many lepers might mingle with the public without attracting the slightest attention.

The Public Health Service study is based upon the minute investigation of 250 cases, by experts, and it is emphasized that the onset is usually insidious and that perhaps two years, on an average, will elapse before the patient is admitted to a hospital. A point of interest is seen in the long periods of quiescence of the disease, during which the victim is apparently free from any signs of the infection.

Certain features of leprosy are similar to those of tuberculosis, and it may be that means of handling the disease, similar to those that have been successful in tuberculosis, may prove of value.

Perhaps, to the layman, the most striking feature of the report is the information that spontaneous arrest of the disease, of greater or less duration, is a common occurrence.

U. S. PUBLIC HEALTH SERVICE.  
Washington, D. C.

### Pioneers and Quacks

THIS country stands, today, overwhelmed by medical and religious quacks. But seldom has the population increased so rapidly as here in these United States during the last few decades. If there is a ratio between the number of quacks and the population, we may have even fewer than bothered our forefathers. Nevertheless they flourish, as ever, on all sides of us.

But who really are the quacks? It is very simple to accuse a man of quackery, but to call a medical pioneer a quack is as great a sin as quackery itself. Although there is a wide difference, nearly all the great medical pioneers were, in their days, labeled quacks. Their inherent honesty and integrity should easily distinguish them from their blatant, cunning and commercial competitors.

The quacks swarm in after the pioneers' work has been accepted by the masses, turning popular interest to their own pecuniary benefit. I hold with A. A. Roback, as stated in his article entitled "Quacks," in the May, 1929, *Forum*, that . . .

"Quackery always takes its cue from developments in the world of knowledge. For this reason, quackery may serve as a sort of barometer to reveal the 'precipitation' of knowledge in any given period." The ideas for which the scientific pioneer is persecuted may reap handsome profits for the quacks contemporary to his grandchildren. The pioneer not only contributes an idea or two to his science, but he works, often, entirely without popular favor and material reward. Not so the quack! Nowhere is the difference between the pioneer and the quack more clearly illustrated than in the field of medicine.

When Ambroise Paré found that simple dressings were better treatment for gunshot wounds than pouring boiling oil into them, and when he proved that ligatures were a better method of checking the hemorrhage following amputation of limbs than was the actual cautery, he did not try to commercialize his ideas by putting a special medicated gauze dressing or fancy named ligature on the market, to be sold at unreasonable prices; yet his great favor with the king was all that saved his life and stabilized his honor.

We read that, when Laennec was perfecting and practicing with his chest trumpets, the doctors, as well as the townspeople, accused him of witchcraft. It was only by the friendly help of a so-called witch-doctor that he was able to practice with his stethoscopes enough to perfect his technic.

Thomas Sydenham, who apparently had the clearest conceptions regarding the cause of disease since Hippocrates, was derided as a "queer one" by his fellows, because he put children or dogs or even cats to bed with his patients in lieu of hot water bottles, which then did not exist.

When Semmelweis proved that child-bed fever could be prevented by the careful scrubbing of the hands and then dipping them in an antiseptic solution, he did not patent a soap or a mystic solution. We are told that Semmelweis was persecuted into insanity by his condemning colleagues, while Harvey was worried into premature old age. Our own Oliver Wendell Holmes, after his monumental work on puerperal infection, is remembered only as a poet, because he made a few truthful remarks about useless druggings.

S. Weir Mitchell did not publish a "best

seller" about the magic of rest in bed and good food, nor did Trudeau blatantly popularize the open-air treatment in cheap physical culture magazines. And lastly, when Sir William Osler was so outrageously misquoted by the clever Press, regarding the necessity of chloroforming individuals when they had reached a certain age, the great profession of which he was a leader did not even take the trouble to correct the Press's lie; much less did they read his actual speech, which was so crassly misquoted.

The memory of the great Boerhaave calls to mind a legendary volume, sold after his death, which was blank except for a line of simple advice concerning daily habits. It seems inevitable, but will be a disgrace to the profession, if Osler's name is connected with euthanasia and so-called therapeutic nihilism. Even today, what is our attitude toward Pottenger's signs and Mayo's sympathectomy technic?

Wash the scum of jealousy and the dreadful fear of competition from the eyes of so great and noble a profession, whose finest attributes should be tolerance, patience and openmindedness. With the scales of doubt and prejudice removed, we may see whether the "different" one, dubbed a quack, be an original if somewhat free thinker, or just a clever commercializer of popularly accepted, pseudo-scientific ideas.

HAL BIELER, M.D.

Pasadena, Calif.

### Cardiac Maxims

**A** HEART may be tired and yet perfectly normal.

The functional capacity of the heart muscle is paramount in importance to valvular deficiency.

The recuperative power of the heart is an important index of functional capacity.

Be careful of a hasty diagnosis of angina pectoris in neurotic individuals.

Carefully investigate chest pains. Do not hastily diagnose them as of extrathoracic, muscular, or of nerve origin.

Give digitalis for effect, and keep the patient under observation.

Do not neglect the peripheral circulation.

Use the sphygmomanometer as a routine diagnostic instrument; but remember that many patients have been scared to death from fear of a temporary increase in blood pressure.

Rest is the sheet-anchor in cardiac therapeutics—a fire cannot be easily quenched by both feeding and extinguishing it.

Healthy hearts often show murmurs.

Do not base a prognosis on a single symptom.

The treatment of heart disease is as much educational as medical.

Sudden death frequently occurs in aortic regurgitation.

Be suspicious in all cases of "acute indigestion." Examine the cardio-vascular system.

*The Clinician.*

### Psychiatry and Criminology\*

**P**SYCHIATRY and criminology are two related infant stepchildren of medicine. The views of the "authorities" are conflicting, because our knowledge in these fields is so new and so incomplete.

Many people—even many physicians—have the impression that all psychiatric patients are in institutions. This view is entirely wrong, but if one wants to see what State Medicine will do to the Medical profession in general, one need only observe what it has *already done* in the State Mental Hospitals. The conditions are, as a rule, highly undesirable. There is little or no incentive to individualized or constructive effort; morale is largely lost; and the men working in such institutions tend to atrophy at the top, because they have so few stimulating contacts with the workers outside.

The general status of mental diseases, today, is much like that of tuberculosis forty years ago, when the only cases diagnosed were those far advanced—the "consumptives"—and the disease was considered hereditary and incurable.

Now we know better, as regards tuberculosis. We have realized that the hope for cures lies in *early* recognition and treatment, and we have moved the center of our efforts from the sanitariums for incurables to the out-patient clinics, the private hospitals for mild cases and the offices of practitioners. In this way we recognize the presence of the disease in its incipency and, by treating the sufferers properly, most of them recover.

The great hope for psychiatry lies in a

\*Abstract, by G. B. L., of a talk given before the Medical Round Table of Chicago, Jan. 14, 1930.

similar handling of the mentally diseased. Of course, the longstanding and advanced cases, as seen in the State institutions, offer small hope of being relieved; but when we can have out-patient clinics for mental disorders, and when practitioners will watch for and deal with *early* symptoms, we will find that a high percentage of these people are amenable to an "arrest" of their diseases—a "social readjustment or recovery." We must study the "borderline" cases—the peculiarities of personality and behavior—as well as the endocrine and other physical conditions and the social and economic factors, in the home and at work.

Contrary to the general opinion, heredity plays only a small part in the etiology of mental and nervous diseases, including epilepsy. They are due, chiefly, to factors in the environment, many of which can readily be corrected, *when they have been discovered*.

We need to assume a more critical attitude in psychiatry. We must observe accurately and think independently, unawed by the "authorities" and unswayed by the unjustified generalizations of such enthusiastic propagandists as Dr. Schlapp who, in his recent book, "The New Criminology," attributes all crime to endocrine dysfunctions. And we must sedulously avoid going before lay audiences with half-baked and radical pseudo-scientific theories.

Crime is a matter of time and geography—a purely arbitrary affair. A certain number of repeated or "habitual" criminals are mentally deficient; but different observers will produce widely varying figures from the study of the same group of cases, according to their personal bias. We must study mental patients as exhaustively as we investigate other types of disease, and observe *many individuals*, as they run, before drawing conclusions.

According to the Army intelligence tests, 45 percent of 2,000,000 draftees were morons (at or below a mental age of twelve years). This is not a fair cross-section of the population. We must study the *whole picture* of life. Murchison tested a prison population by the Army tests and found the inmates at a higher intellectual level than the draftees.

Lombroso's views as to "born criminals" have been proved erroneous. Criminality is not hereditary, and the *intellectual* level of criminals is not different from that of the

population at large. Some people have tried to prove that criminals are physically or mentally below par, but there is no sound evidence to support this thesis.

Most of our psychopathic laboratories, in connection with courts, are undermanned and, in addition, they see only those patients whose behavior is so unusual as to attract the attention of a busy judge. Of course, most of these people—but not all of them—are mentally diseased or disordered. In order to obtain any intelligent comprehension of the situation, we must study *all* criminals.

To say that criminals have a "psychopathic constitution"—not defective nor insane, but *abnormal*—an unstable, egocentric personality—is a loose and meaningless expression. *Why* are they so? In fact, many criminals are none of these things; and they require as careful study as that which we are beginning to give to the insane—although *not all of them are insane*, by any means.

A judge should have an expert to work cases up for him, as is done for the heads of the great clinics. As it is, he tries to do the whole job alone and must hurry, in order to save time. Individualistic treatment, after a full personality study, is the only scientific basis for penology.

In order to carry out these ideas properly, the entire court organization—laws, police, judges, wardens of prisons, etc.—require complete revamping. Some are now trying to bring this about, but it is an enormous task.

It is not the object to excuse or coddle criminals, but to study *causes*, in order to see if, by early diagnosis, we can correct them before matters go too far wrong. Wholly antisocial persons—demonstratedly "hardened criminals"—must be segregated for life, or until it has been *proved* that they can be made better. But if a thorough study were made of first offenders, it should be possible, in many cases, to reorganize the life and save it.

MEYER SOLOMON, M.D

Chicago, Ill.

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### Don't Tell All You Know

ONE way in which physicians are cutting their own throats, financially, is by telling patients to go to the drug store and get so-and-so and take it three times a day.

The next time the patient (or any of the neighbors, for that matter) has, or *thinks* he has the same complaint, he will go direct to the drug store and get the same medicine, without seeing the doctor at all.

I have known of a number of cases where this happened and, though I have thought I was careful about this matter, I recently discovered that a prescription which I wrote three or four years ago had been refilled thirty or forty times, for a number of different persons. I received only one small fee out of all this business.

I recall the case of a wealthy woman who went to a specialist in a nearby city for special treatment. Among other things, she was given a prescription. Later it came out that, not only was she taking this prescription continuously, but also a well-to-do friend of hers, who *thought* she was suffering from the same malady, and who was amply able to pay the specialist's fees, was using the same prescription, without any professional advice whatever.

If a physician is dispensing his own medicines, he will do well to procure the commonly used drugs in forms which are not familiar to the average patron of the drug store—odd shapes, sizes, colors and coatings. If he is prescribing, there ought to be some way in which a physician can protect his patients and himself from the evils of promiscuous refilling.

JOHN A. GIBBONS, M.D.,  
Mitchell, Ind.

[There is much truth in Dr. Gibbons' contention. If "counter prescribing" and things of that sort, are going on, we medical men are certainly not entirely free from blame in the matter. It is a lazy, slipshod and wholly indefensible practice for a physician to send a patient to the drugstore to get some remedy whose name is given to him.

A very little thought will show that the doctor who does this is unjust to his patient, as well as to himself, for the patient, unless he is an unusually intelligent person, is almost sure to feel that he is capable of deciding when he or his friends need more of the medicine.

A patient does not buy a prescription from a physician. He merely buys services. The prescription is a memorandum from the doctor to the pharmacist, and the patient has no claim upon it and should never be permitted to keep it or even a copy of

it, unless the doctor gives specific instructions to that effect.

Physicians who prescribe should have a definite understanding with the pharmacists who fill their prescriptions, upon every one of which should be written, stamped, or printed *non repetatur*, thus forbidding the druggist to refill it. If, then, it is found that this order is being disobeyed or that copies of prescriptions are being given to patients, it is time for the doctor to seek a new pharmacist. There are honest and strictly professional ones in almost every community.—ED.]

### Sulphocarbolates in Gastrointestinal Infections

THE recent publicity regarding psittacosis leads me to wonder, since the early symptoms resemble those of typhoid fever, why the sulphocarbolates, given freely in the early stages, might not be an efficient remedy.

In all forms of gastric and intestinal disorders, acute and chronic, I have used for years a combination of the sulphocarbolates of sodium and calcium, with bismuth subsalicylate and a little menthol or thymol. The usual proportions are: Four (4) grains of the sodium salt; 1 grain of the calcium; 1/4 grain of bismuth; 1/90 grain of menthol. This has proved the most effective remedy which I have found for these conditions.

The dosage is governed by conditions—from 1 to 5 grains every 4 hours, in mild cases, to 10 to 40 grains every 1/2 to 1 hour, in severe conditions. The remedy should be given early and boldly, in sufficient doses to produce results, and each dose should be followed by a half-cupful of water as hot as the patient can drink. It should be continued until symptoms are relieved.

This sounds to me like good treatment in any gastrointestinal upset, whether it be parrot disease or some other. If we wait to paste a label on a case of illness before we begin treatment, we are going to fail frequently. The name of a disease does not kill a patient; but the doctor's procrastination may do so.

Toxemia, from any cause, means pain or fever or both; and vice versa. If the infection is controlled the symptoms will abate and the patient will recover.

*Give enough!* John L. Sullivan never began with "small doses," did he? He used his brains, knew how to give a knockout blow and *kept fighting*. If we would emulate his example in our battle with disease, we would have more victories to our credit.

J. R. SMITH, M.D.

Warsaw, Mo.

[This little contribution may not sound like "scientific medicine." Some of the youngsters may laugh at it and say, "The day is past when people look upon disease as a devil, with which physicians engage in personal combat."

Maybe so; but we are not at all sure that the old disease-devil fighters of our fathers' time would blush to see their clinical results compared with those of the ultrascientific laboratory addicts which the schools are now turning out.

Scientific medicine has come to stay, thank God, and the laboratories are inestimable *helpers* to the clinician; but our patients will place more laurels upon our brows—and cash in our pockets!—if we will revive some of the "out of date" enthusiasm for *seeing sick folks get well*, along with our keenness to make a diagnosis with the electrocardiograph, the metabolimeter and other interesting machines.—Ed.]

### Popularizing the Health Inventory

**R**ELATIVE to the paragraph on Clinical Examination Week, which appeared on page 7 of the January, 1930, issue of CLIN. MED. AND SURG., it occurs to me that a plan I have been using possesses certain features of interest.

DIRECTIONS																								
Take.....Teaspoonful every....Hrs.....Min.																								
.....																								
(Hours may be checked off as doses are given)																								
A.M.—	1	2	3	4	5	6	7	8	9	10	11	12												
P.M.—	1	2	3	4	5	6	7	8	9	10	11	12												

Fig. 1.

When I leave medicines for patients seen at their homes, I write the instructions on a printed slip, with my name, address and telephone number on it, which also has a

list of the hours, so that the doses may be checked off as given, as shown in Fig. 1. This is convenient and helpful for the patient and the family or nurse.

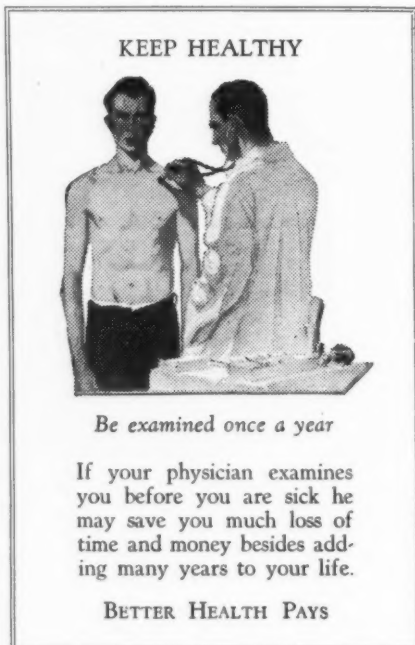


Fig. 2.

On the reverse side of these slips I have printed a recommendation for periodic examinations, like Fig. 2. This has worked remarkably well with many people.

EDMUND LISSACK, M.D.

Concordia, Mo.

### Obscure Puerperal Condition (An Answer to Dr. Colwick)

**I** SHOULD like to enter the field of discussion in this case of Dr. Colwick's, "An Obscure Puerperal Condition." (CLIN. MED. AND SURG., Feb., 1930, p. 138).

First, had I been the attending obstetrician in this case, when I made the first examination at 6 o'clock A.M. and found pains and diagnosis of breech presentation, *right then* my work would have commenced: A hypodermic injection of a No. 1 H.M.C. tablet (hyoscine, gr. 1/100; morphine hydrobromide, gr. 1/4; cactoid, gr. 1/60); wait 30 minutes; and then, with chloroform anesthesia as needed, produce a podalic version, followed by delivery. This work, how-



ever, might never have been of any value as a safeguard to the mother's life.

The symptoms as given would indicate positively some obstruction in the bowel (by the fecal vomit) and probably closely connected with the liver, as indicated by the pain radiating to the right shoulder blade. This obstruction might have been an impaction, intussusception or knotting of the bowel. The severe shock would indicate rupture, possibly of the gall-bladder.

There was no peritonitis, as shown in the history of the case, therefore no septic infection. When the rupture took place, with the intense pain in the right scapular region, the normal pains and progress of labor ended. After delivery was completed the other conditions continued, proving labor and delivery had nothing to do in the fatal results; yet, my theory and practice is always to correct an abnormal presentation at the earliest possible moment, and not take chances of some complication developing.

J. R. SMITH, M.D.

Warsaw, Mo.

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### Color in Therapeutics

THE beneficial effects of sunshine are well known. Everybody has, at one time or another, been conscious of the power of sunshine to create mental vigor and dispel melancholy. "I feel much better this morning," says a man who has been feeling depressed for several days. In nine cases out of ten, this man has been cured by sunshine; he has, in fact, been cured by vivid color.

Sunshine is a vital curative force; and sunshine is yellow! Yellow is one of the most stimulating of colors. Any person who is sufficiently unfortunate to be suffering from nervous depression or from that terrible agony of the nerves called neurasthenia, should experiment with the colors, yellow and orange.

I know a literary man who is subject to frequent spells of intense nervous depression, but he invariably obtains relief by going into his "yellow room," which is illuminated by a very beautiful orange-tinted electric light.

It has been said that more than forty percent of modern nervous disease is caused by color starvation. This may sound like an extreme statement, but color science is now a recognized branch of medicine, and we can no longer afford to ignore the function of color in its relation to good health.

Nature has made color almost as important as food and fresh air; she uses it in many wonderful and subtle ways. A sick person, for instance, who is ordered into the country for a nerve cure, not only obtains purer air than it is possible to obtain in the city, but also draws upon the healing influences of natural color.

Fresh air is only one factor in the cure; color plays an equally important part.

To-day the science of color is being very seriously studied; we are beginning to understand the psychological laws that are inherent in various colors; we are learning how to utilize them in the restoration of health.

Psychiatrists, today, are convinced of the importance of color as a factor in the healing of functional nervous disease. Nature has flung an amazing variety of colors all over the earth, but man has neglected to weave them into the scheme of his daily civilized life.

But color is coming into its own. Not only are we becoming conscious of the scientific value of color as a healing force, but we are also, as if by instinct, demanding brighter surroundings and less funereal clothes. We are thirsty for the beauty of color, not only in our houses and in our dress, but also in the office, factory, and workshop.

B. SHERWOOD-DUNN, M.D.

Nice, France.

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# THE LEISURE HOUR

## The Scientific Medical

(With Apologies to the Shade of W. S. Gilbert)

I AM the very model of the Scientific Medical,  
I know each nerve and artery, each ligament and pedicle;  
My knowledge has been built by evolutionary processes  
From Galen and Hippocrates to present-day Colossuses.  
I've studied all the endocrines and know the various offices  
Of pancreas and thyroid, or of thymus and hypophysis;  
I know the suprarenals too, and all that they're related to—  
How benighted were the medicos who lived in 1882.

I know the pH value of ional acidity;  
I calculate percentages with wonderful rapidity;  
And when it comes to artery or ligament or pedicle  
I am the very model of a scientific medical.  
I'm particularly expert at a Wassermann analysis;  
I hunt for protozoa in a patient with paralysis;  
The chemistry of insulin's a subject that I revel in,  
And antitoxin therapy I'm just the very devil in.

I know the role of calcium in various forms of tetany;  
I understand trypanosomes, although I've never met any;  
And I've the latest news on perineural sympathectomy,  
My knowledge often bringing in a good substantial cheque to me!  
I'm very strong on vitamins and matters dietetical;  
I know the graphic formulae of remedies synthetical;  
And when it comes to artery or ligament or pedicle  
I'm just the very pattern of a scientific medical.

(More Slowly)

When I've acquired some knowledge about matters pharmaceutical;  
When I can diagnose a little deeper than the cuticle;  
When simple indigestion has become a trifle clear to me;  
When babies with the colic are no more a source of fear to me;  
When I can write a recipe with ord'nary galenicals;  
When I have learned the doses of the various arsenicals;  
When highbrow scientific lore no longer needs a missioner,  
You'll then consult me safely as a general practitioner!

For my scientific knowledge, though I'm always up to date with it.  
Has kept me back in practice, and I'm just a little late with it;  
But when it comes to artery or ligament or pedicle  
You'll find I'm just the model of a scientific medical.

THOMAS STEPHENSON.

—From *The Prescriber*, via the News Edition, *Ind. Eng. Chem.*, via  
*J. Chem. Education*, March, 1930.

### The Bases of Happiness

An editorial in the *Journal of the American Dental Association* for November, 1929, records a conversation with a man who had reached the age of eighty years and had evolved a philosophy for a happy life which is worth passing on. Here are some of his soundest points:

"The greatest joys of life come by doing good. It isn't enough merely to do the kind things that are put under one's nose, so to speak. In order to gain the greatest happiness, one must go out and look for kind things to do! And the purest joy comes from doing kindly acts, about which no one but oneself knows.

"My greatest sin has been narrowmindedness and permitting the small things of life to assume undue importance. To be sweet and serene in the face of annoyances is to gain the secret of happiness.

"I am appalled at the jangling and discord I see going on. I, myself, jangled when I was younger, but I never got the smallest atom of satisfaction out of it and I always felt foolish after a display of temper.

"Of all the mistakes that I have witnessed among people, the worst is seeking revenge for a real or imagined injury. Revenge is always disastrous. It injures both parties—the one who seeks revenge, most of all.

"Another terrible wrong is misjudging the motives of others. We should know the whole truth before passing judgment; and as we never can know that we are always wise if we are charitable in our opinions. It all goes back to narrowness of vision.

"If I had my life to live over again, I would laugh more than I have done. It eases the stresses and strains of existence; it breaks the icy chill of reserve! it beats down the rising tide of resentment, suspicion and hate. We should enter into our heritage of happiness through the portals of laughter."

Love at first sight, we may surmise  
Is an affection of the eyes  
Whose victims, turned opticians then,  
Make spectacles for gods and men.

—Author unknown.

### In Cold Blood

He had choked her—

She was dead—there could be no doubt about that. He had listened to her dying gasp.

Now she was cold—cold as the hand of death.

Yet in his anger he was not convinced. Furiously he kicked her. To his amazement she gasped, sputtered and began to hum softly..

"Just a little patience is all it takes, John," remarked his wife from the rear seat.—*Bul. Chicago M. S.*

### A Modern Convenience

Professor: Oxygen is essential to all animal existence. There could be no life without it. Yet, strange to say, it was discovered only a century ago.

Student: What did they do, then, before it was discovered?—*Harper's Magazine.*

### Anxiety

A man with a little black bag knocked at the front door.

"Come in, sir, come in," said the father of fourteen children, "and I hope to goodness you're a piano-tuner."—*Applesauce Chronicle.*

Future archeologists can trace our development of styles by the migration of the vaccination mark.—*Brooklyn Times.*

Garlic, it is said, is a good preventive of flu. Well, we suppose even a germ must draw the line somewhere.—*Philadelphia Inquirer.*

"Your husband looks like a brilliant man. I suppose he knows everything?"

"Don't you fool yourself; he doesn't even suspect anything."

### My Paw

My Paw sez, Goodness knows  
It seems as if they oughta be some way  
Fer the women to get more cloes  
Than they do, fer the price they pay.

—B. H.

# Diagnostic Pointers

## Teething in Children

Teething is a natural process and should not give trouble to normal infants. The symptoms usually attributed to teething are mostly due to disordered digestion, with or without constipation. In such cases a mild aperient, followed by the use of proper diet, will give relief more effectively than the gum lancet. No "teething powders" can possibly facilitate eruption of the teeth.—DR. C. W. CHAPMAN, in *Practitioner*, Lond., Oct., 1929.

## Insulin and Psychic Phenomena

Psychic disturbances—emotional states, hallucinations, catatonia, etc.—may follow the excessive use of insulin, or the use of ordinary doses when, at the same time, the intake of carbohydrates is notably reduced. They are temporary and cease when the balance is restored.—DR. E. L. SEVRINGHAUS, Madison, Wis., in *Arch. Neurol. and Psychiat.*, Oct., 1929.

## Urethral Discharges

Pus from the urethra should not always be diagnosed as gonorrhea, macroscopically; mistakes have been made in cases of urethrorrhea or chyluria. DR. L. NAGORSKY, New York, in *M. J. and Record*, Aug. 21, 1929.

## Septic Sore Throat

*Streptococcus epidemicus* seems to be the specific cause of septic sore throat and is so regarded by those who have studied it most carefully. Studies of the more recent epidemics, by various workers, indicate that the usual, if not the only, route of transmission of the streptococci is from a human being to the teat and udder of a cow, through contact. Here they incubate and rapidly multiply. Then they pass out in the milk directly to the throat of the consumer.

Strains of *Streptococcus epidemicus* yield a specific soluble toxin, which varies to some degree from the toxin of the scarlet fever streptococcus.—DR. D. J. DAVIS, Chicago, in *J.A.M.A.*, Sept. 28, 1929.

## Postoperative Embolism and Thrombosis

Animal experiments have shown that the danger of pulmonary embolism from varicose veins of the legs has been overestimated. They were responsible in only 2.5 percent of 206 clinical cases.—DRS. R. H. MILLER and H. ROGERS, of Boston, in *J.A.M.A.*, Nov. 9, 1929.

## Blood Pressure Reading

In taking the blood pressure we may always take into consideration certain indispensable and often neglected precautions:

1.—Blood pressure readings should always be taken in the same posture, preferably horizontal.

2.—The estimation of the blood pressure should always be made upon the same artery, for the differences in the blood pressure, even of the twin arteries, are very sensitive. It is, likewise, instructive to compare the blood pressure of two pairs of vessels: a too great difference in their blood pressure often betraying an important lesion of the vascular system, an aneurysm, for instance.

3.—It is well to know that emotion, fear and psychic effort have a marked effect upon the blood pressure. Von Recklinghausen says that the difference, in such conditions, might reach 40 mm. Hg. Thus, when a patient is to be examined for the first time, the rule is to make a new estimate, a few minutes later, in order to avoid this mistake.

4.—The blood pressure must not be taken during the period of digestion; alimentary digestion immediately causes an early hypertension, which disappears after one-quarter to three-quarters of an hour.

The best time is three to four hours after meals.

5.—One must bear in mind the fact that sphygmomanometric estimation gives correct results only when practiced very quickly, otherwise vasomotor reactions occur and modify the conditions and conclusions of the exploration.—DR. S. D. BALDOVIN, *Med. J. and Rec.*, Jan. 4, 1928.

### Ultraviolet Irradiation of Human Milk

The antirachitic elements in women's milk were augmented when the women were exposed to ultraviolet irradiation.—DRS. H. HIRSCH-KAUFMANN and C. WIENER, in *Klin. Wchnschr.*, May 21, 1929.

### Recognition of Typhoid Fever

A thorough investigation has shown that typhoid fever can be recognized promptly and efficiently by hospital interns, without more than ordinary dependence on laboratory aids and within the first three days, in 87 percent of the cases. The disease is recognized in a patient complaining of fever, headache, malaise or pain in abdomen in 81 percent; with fever in 100 percent; with slow pulse in 70 percent and with absence of leukocytosis in 91 percent.—DR. M. A. BLANKENHORN, in *Ohio State Med. Jour.*, Aug., 1929.

### Syphilitic Headache

Of 4,300 patients, the great majority being colored, coming to a general medical clinic, 882 were syphilitics and of these 670 gave pain as their chief symptom. In 71.5 percent of these, syphilitic processes alone seemed responsible for the pain. Headache was the chief complaint in 131 of these patients, in 78 of whom the syphilis was tertiary.—DR. J. KOPECKY, *Amer. J. Syphilis*, July, 1929.

### Primrose Poisoning

The English primrose is almost as poisonous as poison ivy, but not to so many people. The treatment is the same as in ivy poisoning.—DR. HOWARD FOX, New York, N. Y.

### Cleft Palate Speech Defects

Although it is perhaps too much to hope that cleft palate speech, in most cases, can ever sound like that of a normal person, yet the improvement possible by proper training is so great that, whereas in its untrained state it remains practically unintelligible to all but near relatives, as a rule, after reeducation, none but those hard of hearing or comprehension could fail to understand the speaker perfectly.—W. K. WARD, Instructor for Speech Defects, West London Hospital, in *Practitioner*, Aug., 1929.

### Atrophy of Fat Following Use of Insulin

Examination of 24 diabetic children, who had been receiving insulin for more than 6 months, showed that 16 had a local lipodystrophy about the site of the insulin injections. The cause of the disappearance of fat is not apparent from the evidence at hand. It is most likely due to a low-grade inflammatory process.—DR. A. E. FISCHER, of New York, in *Am. J. Dis. Child.*, Oct., 1929.

### Gall-Bladder Contraction

The gall-bladder contracts and evacuates itself under the influence of a hormone, secreted in the upper intestine. If the outlet of the gall-bladder is spastic, that organ cannot evacuate itself.

**Cholecystokinin**—a fraction of the secretion—works through the blood to produce gall-bladder contraction, and therefore must be given intravenously.—DR. ANDREW C. IVY, Northwestern Univ., Chicago.

### Exhaustion States

There exist at present increasing and varied causes of exhaustion in adults. These causes may be divided as follows: First, the World War and its effect on the make-up of the people; second, the epidemic of influenza and its persistent residuum; third, the advent of prohibition, with poisonous intoxicants that have followed in its wake; and fourth, the increasing number of automobiles, with carbon monoxide saturation of the atmosphere to a harmful degree. The exhaustive states due to these general causes are to be dis-



tinguished from the endocrinopathies and neuroses. They are cases of lowered metabolism and blood pressure, with slight secondary anemia and a slow pulse.—DRS. C. W. DOWDEN and W. O. JOHNSON, Louisville, in *J.A.M.A.*, Nov. 30, 1929.

### Don't Kill the Dog

It is of the utmost importance, in cases where persons have been bitten by supposedly rabid animals, that the suspected animal should not be destroyed, but apprehended and held under observation, in quarantine, for ten days or two weeks.

If the animal was rabid at the time of inflicting the bite, it will die before the end of this period. If it is normal at the end of the tenth day, treatment of the bitten person may be discontinued.—*Therapeutic Notes*, June, 1929.

### Coma of Acidosis and Hypoglycemia

In acidotic coma, in addition to signs which are more or less common to the two conditions, the following symptoms are seen which are not present (or not marked) in hypoglycemic coma:

The pulse is generally accelerated and the blood pressure low; cardiovascular collapse is frequent; the patellar reflexes are abolished; respiration is deep (Kussmaul's type); the urine contains glucose (generally much) and reactions for ketosis are intense.—DR. M. LABBÉ, in *Bull. et mém. Soc. Méd. d. Hôp. de Paris*, Mar. 23, 1928

### Pleural Effusions

All cases of suspected pleural effusion should be given roentgenologic study before doing a thoracentesis, in order to avoid a "dry tap."—DR. ARTHUR C. CHRISTIE, Washington, D. C.

### Specificity of the Wassermann Reaction

In 8 cases from the files of the past five years, all definitely nonsyphilitic, there was a positive (4 plus) Wassermann reaction in the spinal fluid. The Kolmer technic was strictly followed and rechecked.—DR. K. SCHAFFLE and M. RISSENBERG, Asheville, N. C., in *Am. J. Med. Sc.*, Nov., 1929.

### The Surgeon and Diagnosis

It is true that at times a complete and accurate diagnosis is impossible without an exploratory incision, but even in such a case a diagnosis can be made of an acute condition requiring immediate operation or of a chronic lesion requiring exploration for complete elucidation and treatment.

To operate simply and only because a pathologist recommends it or a colleague advises it is an evasion of personal surgical responsibility due to laziness, indifference, ignorance or moral cowardice.—DR. J. C. DACOSTA, Philadelphia, in *Surg. Gynec. and Obstet.*, Oct., 1929.

### Ureteral Disorders and Appendicitis

Pain, due to ureteral kinks, stricture or calculi, has misled many surgeons into believing they had an acute appendicitis to deal with; only to learn, to their dismay and embarrassment, that a stone in the ureter was responsible for the error in diagnosis.—DR. L. NAGORSKY, New York, in *M. J. and Record*, Aug. 21, 1929.

### Acute Intestinal Obstruction

In early intestinal obstruction, diagnosis is difficult but the prognosis is good. In late intestinal obstruction, diagnosis is easy but the prognosis is very grave.

In early obstruction the occurrence of bowel movements may be misleading, but it should be remembered that such are more likely to occur when the obstruction is high in the small intestine. In differentiating intestinal obstruction it should be noted that diaphragmatic pleurisy may reflexly inhibit peristalsis, and the same may result from acute perforative appendicitis, acute perforative cholecystitis and perforation of gastric and duodenal ulcers. Usually, however, in the latter, there is a rise of temperature and increased leukocytosis.—DR. J. A. MATTISON, Los Angeles, in *Am. J. Surg.*, Nov., 1929.

### Over-Bright Children

If a child does abnormally good work in school, suspect hyperthyroidism. If the thyroid is operated upon, the child will become dull and stupid.—DR. GEORGE W. CRILE, Cleveland, Ohio.

### Roentgen-Ray Diagnosis of Acute Intestinal Obstruction

As a link in the chain of evidence, the use of the roentgen-ray is proving to be a wonderful diagnostic aid in acute intestinal obstruction and is now a routine method in several hospitals. Its value depends upon the interpretation of the character and distribution of gas shadows on the bowel.—DR. M. H. RABWIN, Los Angeles, in *Am. J. Surg.*, Nov., 1929.

### Physical Status of Aviation Candidates

Sixty percent of the average type of candidates for the United States Naval Aviation Service fail to pass the preliminary physical examination for flight training. Fifty percent fail to qualify as pilots after entering training. Only about 20 percent or less of healthy young adults are able to become qualified naval aviators.

Eye defects are, by far, the greatest physical cause for rejection in aviation.—DR. J. D. BENJAMIN, in *Mil. Surg.*, Nov., 1929.

### Gastric Manifestations from Spastic Colon

A recurring symptom-complex, suggesting that of peptic ulcer, is often associated with a spastic colon or with various pathologic conditions of the bowel. Increased gastric tension is a significant factor in the production of the epigastric pain which accompanies the condition. Gastric manifestations may be intensified by a reflex stimulation from the colon.—DR. F. M. SMITH and associates, Iowa City, in *J.A.M.A.*, Dec. 21, 1929.

### Traumatic Neuroses

The long-continued complaints of the great majority of post-traumatic patients without neurologic findings, arise out of the wish-to-be-sick.

Similarity of symptoms and complaints is probably due, in non-organic cases, to a persisting recollection of disagreeable sensations directly following the accident, plus suggestion. Courts recognize the so-called

traumatic neurosis as a disability, whereas conscious simulation is summarily dealt with.—DR. CHAS. F. READ, Chicago, in *Illinois Med. Jour.*, Nov., 1929.

### Incipient Parkinsonism

Study of the early signs and symptoms, in cases of Parkinsonian disease, reveals the fact that subjective manifestations antedate physical signs, but are too protean to be reliable as diagnostic criteria. Of the physical signs, postural and tonetic changes in the hands have been found to be most constant and earliest in their appearance. Increased flexion of the fingers of the right hand, asymmetrical finger-spacing and definite changes in thumb-forefinger movements on the right are the marked signs. DR. A. M. ORNSTEEN, Philadelphia, in *Arch. Neurol. and Psychiat.*, Oct., 1929.

### Gastric and Urinary Acidity

That an increase in gastric acidity is not always accompanied by a diminished acidity in the urine, as might be expected when acid is drawn from the blood, is accounted for by the fact that, simultaneously with the acid secretion of the stomach, there is an alkaline secretion from the pancreas and the intestine.—DRS. MAX EINHORN and H. A. RAFSKY, in *Bull. Battle Creek Sanitarium*, Oct., 1929.

### Asthma as a Toxemia

Experience of 1,100 cases has confirmed the conviction that there is a toxic basis for asthma. The recent assertions in regard to allergy connected with this disease only show that allergy is prone to develop on a toxic soil.

The toxemia of asthma arises partly in the bowel and partly in the tissues. It is due to carbohydrate excess in the food and consequent metabolic disturbance—too much fuel food, interfering with the proper metabolism of the more complex protein. The toxicosis is an acidosis, confirmed by the finding of reduced urea and increased ammonia in the urine and an excess of amino acids in the blood. — DR. JAMES ADAM, Glasgow, Scotland, in *M. J. and Record*, Nov. 20, 1929.

# Current Medical Literature

## Rhinologic Factors in Asthma

In *M. J. and Record*, Nov. 6, 1929, Dr. D. W. Myers, of Ann Arbor, dwells upon the connection between nasal conditions and bronchial asthma and draws attention to the work of Adams, Haseltine and others who clarified the relationship between general toxicosis and vagal irritation in producing bronchospasm.



Fig. 1.—Flat tampon entering superior meatal sulcus. Note depth of this groove and its unusual shape occasioned by the pushing forward of the anterior wall of an abnormally large sphenoid cavity.

Nasal infection, especially of the ethmoid area, may be the source of toxicosis or it may provide the irritation to the reflex arc which results in bronchospasm. This reflex arc is formed by the connection between the trigeminal sensory nucleus, the nucleus ambiguus and the dorsal nucleus of the ascending vagus root.

Dowling's tampon treatment is a measure of the greatest importance in the treatment of the asthmatic patient and should be used in all cases with inflammation or edema, whether or not surgery is required.

The secretions should first be washed away by some form of intranasal lavage. Postnasal irrigation is also often needed. After thorough cleansing, thin delicate wisps of cotton should be saturated in a colloidal silver preparation in 10-percent solution and placed in such manner as to fill all the spaces of the upper air passage (Fig. 1). It is particularly important that these tampons be carried well back to the pharyngeal wall, then upward and outward so as to fill the superior meatal sulcus (Fig. 2). More tampons are then applied filling the nose until the lower margin of the middle turbinal is reached, then carried around the lower edge of the turbinal and into the middle meatus. In this way the middle turbinal and all membranes

of the upper air passage are completely bathed by the solution.

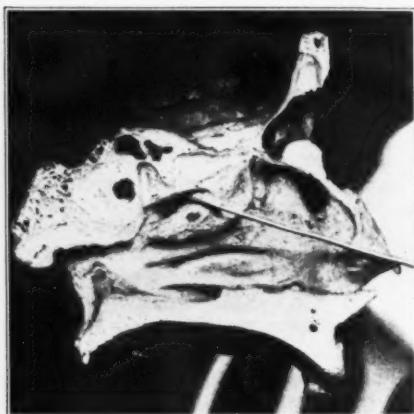


Fig. 2.—Probe in superior meatal sulcus. Note depth of the groove in the dried specimen.

The tampons are left in place one hour or more, when it will be found that a large portion of the silver has disappeared. The patient is then directed to blow the nose with the nostrils wide open and a large quantity of mucus will be discharged; irrigation should remove remaining shreds of mucus. These treatments should be given daily until conditions have improved, when they should be diminished in frequency. Removal of the mucus frees the nose of irritation and obviates its effect on the reflex neurologic arc.

## Psychoneuroses and the General Practitioner

Dr. Peter Bassoe, of Chicago, in *J. Missouri St. M. A.*, Aug., 1929, points out that physicians should bear in mind that mental diseases are of all degrees and kinds and that only a few of them lead to insanity. The public should be educated to this view, as it has become fixed in their minds that mental disorder is the equivalent of insanity and that such patients are not responsible.

Insanity is primarily a social and legal status and it is confusing to speak of "medical" and "legal" insanity. An "insane" person is one who has been so declared by law and the attitude of the examining physician should be merely to aid courts in arriving at such a decision. The mere existence of a mental disorder does not, of itself, raise the issue of insanity; it can very often be cured, like a somatic disorder.

What can the general practitioner do in dealing with minor mental disorders? Under normal conditions, fear and other mental states will react somatically and cause physical symptoms. Under abnormal conditions the responses may be most varied and bewildering, depending on the make-up of the individual. The psychoneurotic symptoms are reactions, instinctive and protective, to some disturbing influence, physical or mental, from within or from without. The most important thing the family physician can do is to find out the type of personality he is dealing with and what the disturbing factors are in the case.

Behind so-called "neurasthenic" and psychoneurotic cases often lie real physical diseases. It has been found that about one-fourth of the patients in hospitals with medical disorders need psychiatry; and, conversely, only about 4 percent of cases of psychoneuroses of the anxiety type are free from associated organic disease. The whole patient, mental and physical, requires attention, and not merely the labeled disease.

The perfectly obvious fact that every physician should realize is that patients have both bodies and minds and their emotional life must never be neglected. Hereditary and environmental conditions of the patient since childhood should be sympathetically inquired into; also the sex and domestic life, business worries and the like. If there is an "inferiority complex" it should, if possible, be brought out.

The problem in dealing with patients with psychic symptoms is one of restoring them to normal mental poise, by allaying fears, restoring self-respect and undoing the effects of harmful suggestions, and it should not be forgotten that the removal of functional symptoms may also mean the ending of organic disease. A "colitis" is often psychic in origin and palpitation may be only the expression of an anxiety neurosis.

### Seminal Vesiculitis Following Prostatectomy

In *J.A.M.A.*, Nov. 2, 1929, Dr. L. P. Player, of San Francisco, shows that seminal vesiculitis is a very frequent complication of prostatectomy, and its recognition and proper treatment are very important.

In a personal series of prostatectomies, the author reduced the number of such complications by the following postoperative measures: Bland, simple diet; stimulating tonics; and acriflavine hydrochloride, salol, hexylresorcinol or methenamine, administered by mouth, as a urinary antiseptic.

Local stripping of the seminal vesicles once a week or instillations into the posterior urethra of mercurochrome-220 soluble, 1 to 3 percent; mercuraphen, 1:5,000; or mild silver protein, 10 percent, along with water or diathermic rectophore, was found the method of choice.

### Vaginoscope for Infants and Virgins

In *J.A.M.A.*, Nov. 2, 1929, Dr. S. K. Levy, of Brooklyn, described a new vaginoscope of his own invention for use in infants and virgins.

The insertion tube is  $3\frac{1}{2}$  inches long and in

width about size No. 18 French. The lower surface which slides along the posterior vaginal wall, is slightly longer than the upper. There are standard battery handles which permit of direct electric illumination with a small magnifying head piece similar to that on an auroscope. The author finds it very satisfactory for its purpose.

### The Gall-Bladder and the Heart

In *Illinois Med. Jour.*, Nov., 1929, Dr. S. R. Roberts, of Atlanta, reports 5 cases which suggest a diagnostic relation between a diseased gall-bladder and certain types of angina pectoris ("gall-bladder angina").

In middle and old age, heart failure or angina pectoris may be produced or accentuated by a diseased gall-bladder, although the symptoms of the latter may be hidden or masked.

It is suggested that cholecystography may be of great aid in distinguishing between an angina depending on gall-bladder disease and that due to other causes. Patients of the first type should not be denied operation.

### Ethyl Chloride Anesthesia

The virtues of ethyl chloride, as an anesthetic for short operations, are insufficiently understood. They are set forth in some detail in an article by Dr. Roy M. Wolf, in *Bul. Amb. Proct.*, for Nov.-Dec., 1929.

The indications for ethyl chloride anesthesia are:

- 1.—Induction period for long general anesthesia.
- 2.—For operations lasting less than 15 minutes, especially on infants and children.
- 3.—For short, painful examinations.
- 4.—In aged and anemic patients where quick anesthesia is desirable.
- 5.—In patients with bronchial or kidney disease, where a general anesthetic is imperative.

Anesthesia is induced in 3 to 4 minutes, with little discomfort; as against 15 to 20 minutes for ether, equal skill being used. The margin of safety is narrow, so that the anesthetist must be constantly on the alert; but in experienced hands it is safer than chloroform or nitrous oxide.

If it is found that the operation will last longer than 15 minutes, a change should be made to ether, by gradually adding the latter, while gradually diminishing the ethyl chloride. Preparations are the same as for an ether anesthetic. A hypodermic injection of "H.M.C. No. 2" (hyoscine hydrobromide, gr. 1/200; morphine hydrobromide, gr. 1/8; cactoid, gr. 1/200) may well be given 20 minutes before starting the ethyl chloride. Very large or robust individuals may require "H.M.C. No. 1," containing double the amount of the various drugs.

The best technic is to use the open method, with a wire chloroform mask covered with a few layers of gauze and wrapped with a towel, except for a couple of square inches in the center. Place wet cotton over the eyes and pin a dry towel around the patient's head. Wet the mask and towel with salt solution, 2 teaspoonfuls to

the pint. Put petrolatum on the face. Hold the mask 6 inches from the face and spray on the ethyl chloride, telling the patient to hold the arm up and count slowly. Lower the mask at the rate of an inch in 20 seconds. When the mask is on the face, add just enough of the anesthetic, from time to time, to maintain anesthesia.

During the anesthesia, the patient's face should be flushed. The appearance of pallor or muscular relaxation calls for stopping the anesthetic; cyanosis, stertor or irregular respiration demand more air and prompt discontinuance of the anesthesia, as the margin between anesthesia and danger is a matter of seconds.

Recovery from ethyl chloride anesthesia is prompt and generally free from unpleasant symptoms.

Ethyl chloride is very combustible and should never be used near a flame, and with the greatest caution when a cautery is being employed.

### Splenic Extract in Eczema and Urticaria

In *Urol. and Cutan. Rev.*, Nov., 1929, Dr. T. M. Paul, of St. Joseph, Mo., states that injections of an albumin-free extract of hog spleen effect an almost instantaneous cure of eczema, urticaria and allied pruritic conditions.

The extract used was prepared in a laboratory and was apparently the strongest albumin-free extract obtainable. The author has found that hypodermic injections of 10 to 12 cc. of such an extract, given at one time, bring about what he terms "astonishing" and "miraculous" results in the skin diseases referred to. Sometimes as much as 20 cc. is given in the single dose. Although there may be unpleasant temporary reactions, including a transient syncope, no remote ill effects have been observed.

Altogether, 44 cases of eczema, 17 of urticaria and 15 other cases, mostly pruritic, were treated. Varying quantities of the splenic extract were administered in these cases and the majority received 2 or 3 injections. The author now believes that less than 10 cc. of the strongest extract, to an adult, is an insufficient dose. Two (2) to 4 cc. seems to be required for a child. The results are most marked in eczema and urticaria.

### Rectal Examinations in Labor

Dr. R. T. La Vake, of Minneapolis, in *Am. J. Surg.*, Nov., 1929, expresses the opinion that a summation of results of bacteriologic research and labor statistics bearing upon postpartum sepsis points to the conclusion that, whenever a pelvic examination is necessary in labor for purposes of diagnosis, or following the course of labor and scientifically handling the problem of the alleviation of pain in labor, it is expedient to use the rectal examination first and use the aseptic vaginal examination only in those cases in which the rectal findings leave one in doubt.

The greatest potential danger resident in the rectal examination is overlooking what has been called a concealed second stage of labor. In

this condition the cervix, though potentially completely dilated, is easily palpated by rectum and may give the impression, to one not keeping the entity in mind, of a cervix not nearly completely dilated, and thus one may allow the patient to continue on in labor without making a vaginal check, believing that she is in the first stage of labor when she is really in the second stage. Unless this possibility is kept in mind, one may not find out his mistake until untoward signs on the part of mother and child demand interference.

The rectal findings that should lead one to suspect a concealed second stage of labor are: a peculiarly soft cervix that hangs down from the presenting part like the open end of a bag; the cervical canal is obliterated but the external os does not appear to be completely dilated; the ease with which one can pull the cervix from side to side in the attempt to palpate the directing features of the presenting part; during a pain the cervix may disappear, only to appear again between pains. Where these findings are present, make an aseptic vaginal examination and proceed according to the indications of the findings.

### Rivanol in Puerperal Sepsis

In *Am. J. Surg.*, Nov., 1929, Dr. P. Oginsz, of Brooklyn, reports that intravenous injections of Rivanol have been found very effective in a series of cases of puerperal sepsis as well as in some cases of post-abortive and postoperative sepsis.

Rivanol is an acridine derivative with great antiseptic power and little toxicity, having a strong affinity for parasites, but none for the cells of the host. A tablet of 0.1 Gm., when dissolved in 100 cc. of boiling water, gives a 1:1,000 solution and this was the concentration used in all cases. Sixty (60) to 80 cc. of the 1:1,000 solution is warmed to body temperature and injected intravenously very slowly, this occupying at least 25 minutes. The largest single dose any patient received was 100 cc.; the smallest 60 cc.; the largest total dose was 375 cc. Injections may be repeated daily if necessary and there are usually no undesirable effects. The temperature usually drops by crisis within 24 hours. Generally only 2 doses are required.

### Undulant Fever

In *Am. J. Surg.*, Nov., 1929, Drs. W. M. Simpson and L. G. Bowers, of Dayton, O., call attention to the increasing frequency of undulant fever; over 1,000 cases have been observed in the United States.

Undulant fever possesses important surgical aspects. On account of the acute abdominal pain which is manifested in many cases, it may be confused with appendicitis and cholecystitis and several cases have been operated upon on the basis of such erroneous diagnoses. Moreover, in view of the predilection of the organism for the genital tract, undulant fever bears an etiologic relationship to certain cases of abortion, tubero-ovarian abscess, seminal vesiculitis, prostatitis epididymitis and orchitis. The manifestations



in the joints may make it a problem for the orthopedic surgeon.

The clinical diagnosis of undulant fever may be confirmed: (1) by the recovery of the *B. abortus* from the blood or urine; (2) by the agglutination test; or (3) by the skin test; i.e., intradermal injection of 0.1 cc. of a suspension of killed *abortus* organisms, which gives a positive result in a large percentage of the cases. The ordinary clinical symptoms suffice for a clinical diagnosis in about one-third of the cases.

### Epinephrin-Probe Test in Neurosyphilis

The adrenalin (epinephrin) probe test, introduced by Muck, of Germany, in 1924, is as follows:

If the anterior portion of the inferior turbinate of a normal individual is made ischemic by means of a spray of epinephrin solution, 1:1,000, and a line is drawn upon it, parallel with the floor of the nose, with a probe under moderate pressure, three or four times, in the same manner as the well known dermatographic test on the skin, the ischemic mucous membrane immediately or shortly after the probing turns hyperemic. This hyperemia, after one to two minutes, recedes and remains limited to the probed line, only being markedly visible on the epinephrin-ischemic background. In from 2 to 15 minutes the phenomenon disappears and the normal condition of the mucous membrane is restored.

In certain pathologic conditions of the brain, however, the line produced by probing, instead of being hyperemic, turns white; that is, *muco-graphia alba* appears.

In *New York St. J. Med.*, Oct., 1929, Drs. I. J. Arnsion, and associates, of Buffalo, state that, of 100 patients with clinically and serologically demonstrated neurosyphilis or paresis, 99 showed this *muco-graphia alba*. A small percentage of patients with dementia precox showed *muco-graphia alba*, limited to one side of the nose.

### The Doctor and His Investments

In an article by W. H. Neal, in *Southern Med. and Surg.*, Nov., 1929, he remarks that the greatest financial problem of the doctor is, not to earn money, but to conserve and invest what he earns.

Two things are necessary and should always be kept in view: The creation of an estate and the conservation of it.

In considering the purchase of securities, the bond department of the bank should always be first consulted; it can secure information about any security that has ever been offered to the public and answers many questions that the average investor would never think of asking.

The living or voluntary trust plan, offered by most high-class banks, is growing in favor with professional men. A trust agreement can be made to suit individual needs, and deposits of cash and securities may be made with the trustee and all matters connected with their management are executed and income disposed of during the

life or after the death of the depositor in such a way that he is relieved of all trouble and his wishes exactly complied with. Such an agreement can be revoked or amended at any time. A professional man in this way gradually builds up a substantial estate which gradually, by the wise investments of the trustee bank, increases in value.

The life insurance trust, which fits in with any life insurance plan and is offered by the bank trust department, should be investigated. It provides a safe disposal of life insurance funds when they become available.

Every owner of an estate, no matter whether small or large, should make a careful will. This is a legal privilege as well as a duty and the trust department of your bank is a capable and impartial executor, and will offer you sound advice in making such dispositions of your property as you desire.

### Tonsillectomy Under Local Anesthesia

In *Laryngoscope*, Nov., 1929, Dr. Harmon Smith, of New York, gives the following technic for the removal of tonsils under local anesthesia:

First, ascertain the patient's susceptibility to morphine and procaine.

Second, examine the heart and determine the coagulation time of blood.

Third, one-half hour before operation begins, administer, hypodermically,  $\frac{1}{4}$  grain (0.016 Gm.) of morphine and 1/100 or 1/200 grain (0.65—0.32 mgm.) of scopolamine, according to size and age of patient, dissolved in coagulin.

Fourth, the patient is placed upon the operating table in a semirecumbent position; a smear is made over the anterior and posterior walls of the tonsil, where the injections are to be made, of a small quantity of cocaine flakes, which is applied with a cotton applicator dipped in the procaine solution and then in the cocaine flakes. In this manner less disturbance arises from cocaine than when a solution is employed.

Fifth, prepare 1 oz. of a 1-percent solution of procaine, to which has been added 10 drops of epinephrin, 1:1000. This is injected at both the upper and lower pole of the tonsil, anteriorly and posteriorly, into the capsule and not into the tonsil itself. Sixth, after an interim of from five to eight minutes, test the surface of the pillars to determine if anesthesia is complete and, if so, partially liberate the anterior folds with the Leland sickle knives, beginning on the right tonsil and confining all attention to this side until its removal is complete. Then, with tenaculum forceps, draw the tonsil downwards and outwards and continue the separation of the anterior fold from the tonsil with curved, sharp-pointed scissors or some of the numerous separators. Then liberate the posterior pillar. When properly separated the tonsil can be brought well forward from its capsule. Then engage the snare and remove the tonsil.

Whether there is bleeding or not, immediately insert into the tonsillar fossa a fairly large gauze plug, which is covered with either Monsell paste or with a tannic and gallic acid paste. Both of these are astringents, made up in vaseline.

Then turn to the left tonsil and proceed in a similar manner.

### Antirabic Immunization with Desiccated Virus

Rabies vaccine, frozen at a very low temperature and then dried in *vacuo* over sulphuric acid, preserves a large percentage of its immunizing power.

In *Am. J. Pub. Health*, Sept., 1929, Dr. D. L. Harris states that, in a total of 3,516 antirabic vaccinations, the uniformly successful treatment of every patient bitten, with only one failure, warrants the conclusion that antirabic immunization with desiccated virus is as effective as by any other method.

In the same journal and issue, Dr. R. D'Aunoy reports that a fair percentage of treated patients developed more or less severe reactions to desiccated virus, especially a generalized urticarial rash. In 5,125 vaccinations there were 5 deaths and 3 treatment paralyses.

### Emotional Data in the Medical History

Dr. John Favill, of Chicago, in *Ann. Intern. Med.*, Nov., 1929, stresses the desirability of eliciting emotional data when internists are compiling a medical history.

Emotions, especially strong emotions, are very frequently causal of definite symptoms which may be wrongly interpreted and consequently the treatment may be wrong.

Dr. Favill suggests a tactful questioning of patients on such matters as financial strain, business and social worries, domestic, sexual or religious difficulties, fears of future eventualities or of disease, past shocks or griefs, and any other mental factors that the individual patient may suggest to the examiner. Mental data in the family history may be a clue.

If such data seems significant, consultation with a neuro-psychiatrist may be desirable.

### Injuries to the Pelvic Floor

In *Am. J. Surg.*, Nov., 1929, Dr. L. E. Phaneuf, of Boston, on the basis of his personal experience in 946 cases of pelvic floor injuries, observed in the Gynecologic and Obstetric Service of the Carney Hospital, gives the following conclusions:

1.—Injuries of the pelvic floor should be repaired immediately after labor, since practically all of them heal by first intention, as a result of which the patient is saved from a second anesthesia and a secondary repair.

2.—In order to avoid a tear through the sphincter ani and the anterior rectal wall, one of three methods should be employed at the time of delivery, namely, perineotomy, episiotomy or manual dilatation of the perineum and vagina.

3.—Perineotomy, or median perineal incision, is recommended when the disproportion between the presenting part and the vaginal outlet is not too great.

4.—Episiotomy, or lateral perineal incision, should be resorted to when a great deal of room is required, as in difficult forceps operations.

5.—Manual dilatation of the perineum and vagina is an ideal method of preparing the birth canal before version and extraction operations.

6.—A hernia of the cul-de-sac of Douglas or posterior vaginal enterocele should receive adequate surgical treatment at the time the perineum is repaired, to avoid recurrences in the posterior vaginal segment.

7.—A carefully planned and executed after-care is essential, in all cases, to obtain satisfactory end-results.

### Testing for Urinary Acidity and Indicanuria

In *M. J. and Record*, Nov. 20, 1929, Dr. Clifford Mitchell, of Chicago, enumerates the following precautions which should be observed in testing for urinary acidity:

1.—The urine must be drug-free, especially as regards alkalis and acids.

2.—The urine should be negative to the nickel sulphate test\* for alkalinity.

3.—The urine must be acid to several indicators in qualitative agreement.

4.—The pH value must vary inversely with the titration figures in degrees.

5.—One drop only of a 0.5 percent alcoholic solution of phenolphthalein must be added to 10 cc. of the urine in every instance.

6.—The same shade of pink color should be obtained as an end reaction and the operator's eye must be trained to this shade.

To test for indican:

1.—No formaldehyde-producing substance must be present in the urine.

2.—The volume of the urine per 24 hours must be considered, since a plainly perceptible blue, in a large volume of urine, is quite as significant as a marked blue in a small volume.

3.—The fact that a collection of urine is less than 1000 cc. in 24 hours and is of specific gravity 1.025 or more, should not be allowed to account, chemically, for the presence of a brilliant blue with the test.

4.—A marked indican reaction, found in the urine of patients suffering from urinary infection by the colon type bacillus, points to intestinal conditions which must be removed before complete cure of the infection can be obtained.

### Physical Therapy in General Practice

Dr. E. L. Libbert in *Physical Therap.*, Nov., 1929, considers that the conditions most frequently met with in general practice, which demand some form of physical therapy, are respiratory disorders, infections, pelvic disturbances, diseases of bones, muscles, joints and nerves, and an occasional skin disease.

In respiratory diseases, especially the common cold and bronchitis, an application of radiant

\*Nickel Sulphate Test: Dissolve 20 Gm. of nickel sulphate crystals in 80 cc. of distilled water. Pour 5 cc. into a test tube and float about an equal quantity of urine on it. A whitish line or turbidity above the green shows alkalinity.

heat and light to the face and chest, for 30 to 40 minutes, will give the patient instant relief and should be repeated daily until permanent relief is obtained. In advanced cases, diathermy is added.

In lacerating or abrading injuries, to avoid infection, there should be a generous use of heat in the treatment.

Tuberculous glands, before suppuration, should receive local and systemic, air-cooled ultraviolet irradiation. After suppuration occurs, radiant heat and light are applied for 30 minutes or so before the ultraviolet irradiation.

For dysmenorrhea, diathermy for 30 or 40 minutes, followed by air-cooled ultraviolet irradiation over the abdomen, at 15 inches, for one or two minutes, on the days immediately preceding the expected period is employed.

In fractures, ultraviolet irradiation improves calcium metabolism; and osteomyelitis is markedly improved by diathermy.

For sprains and strains, heat is applied first, for 30 minutes; then a slow, strong Morton wave; then hydrotherapy, at home.

### Anemia of Pregnancy

The majority of women, when pregnant, develop anemia. Dr. C. E. Galloway, Evanston, Ill., reports, in *J.A.M.A.*, Nov. 30, 1929, that his observation of a large series of pregnant women, both primiparas and multiparas, showed that the average hemoglobin estimations for the first, second and third trimesters, respectively, were 73, 69 and 66 percent. The average red cell counts were 4.05, 3.94 and 3.87. These figures demonstrate a progressive anemia as pregnancy advances and a more marked reduction of hemoglobin than of red cells.

After delivery there is a fairly rapid return to normal, in the majority of cases.

It is not certain that the severe physiologic anemia of pregnancy develops into the pernicious type.

Women with severe anemia near term have a tendency to hemorrhage. As this type of anemia responds to transfusion, the blood of such patients should be typed and matched for transfusion of whole blood as they come to the delivery room.

### Treatment of Pain in Cancer

Various measures of alleviating pain in cancer patients are discussed by Dr. R. J. Behan, of Pittsburgh, in *M. J. and Record*, Dec. 4, 1929.

The two factors causative of pain in cancer are: (1) The accumulation of toxic products in and around the cancer mass; (2) the mechanical factors, such as the pressure which cancer tissue exerts upon surrounding structures and on nerve fibers.

The toxic products of cancer tissue are of an acid nature and cause pain by irritation. To counteract this pain from the discharge of uterine cancer, the author uses a preparation containing one part of hydrogen peroxide to one part of 1:1,000 permanganate solution, with one gram of powdered calcium chloride added to each 100 cc. This is alkaline in nature and, if

the foul discharge is frequently removed by cleansing douches of the above solution, two or three times a day, the irritation is checked.

Certain substances, such as calcium, act upon cancer tissues and profoundly influence it. Very shortly after the intravenous injection of calcium chloride (15 grains—about 1 Gm.), the pain from which the cancer patient may have been constantly complaining becomes less severe and may cease entirely.

In cancer there is increased glycolytic activity. It may be considered as logical to conclude that the lowering of this activity, and the consequent reduced production of lactic acid, may inhibit the rate of cancer growth, with lessening of the toxic products and decreased intensity of pain. The author has obtained some excellent results from injections of insulin. It is given in doses of 0.5 cc., gradually increasing to 1 cc., at two-day intervals. The patients also had parathyroid extract (1/10 grain—6.4 mgm.), three times a day and calcium carbonate (10 grains, 0.65 Gm.) three times a day.

Restriction of the circulation; giving of narcotics; oxygen-liberating chemicals used locally; oxygen gas given intrapleurally and intra-abdominally; removal of tissue distention and pressure; alcohol injection of nerves; and sensory cord resection are the other means of relieving or banishing pain in cancer.

### Immunization Against Tuberculosis

In *J.A.M.A.*, Nov. 9, 1929, Dr. G. B. Webb, of Colorado Springs, sums up recent literature and his personal experience regarding immunization against tuberculosis by feeding with "BCG" living cultures of the *Bacillus Calmette-Guérin*. Up to date, 120,000 infants have been so treated in France alone and Calmette asserts that the tuberculosis mortality has been reduced by more than three-fourths.

Committees appointed by the League of Nations to investigate "BCG" have reported that it was a harmless vaccine; that laboratory animals did not develop progressive tuberculosis following inoculation; that a certain degree of protection resulted from its use; and that the results following vaccination of cattle were favorable.

Webb finds that the objection, that the avirulent organism of "BCG" might become virulent after long residence in the human body, is not well founded.

The reports made by clinical investigators in the United States have generally substantiated the claims of Calmette. Park, of the New York Health Department, has given "BCG" to 167 infants in tuberculous families. At the same time, 280 infants, born in tuberculous families and not so vaccinated, were observed as controls. In the latter the death rate from tuberculosis was 8.6 percent, while in the former it was only 1.2 percent. Of the children exposed to positive sputum, the mortality from tuberculosis in the vaccinated was 12 percent, compared to 20.1 percent in those who had not received "BCG."

The method advised by Calmette is to feed infants on the third, fifth and seventh day after

birth with 2 cc. of "BCG" suspension, representing 10 mg., moist weight, of bacilli.

After careful study of the literature and after personal investigation and experiments, Webb expresses the opinion that "BCG" should be administered to infants born to parents with open pulmonary tuberculosis. With further proof of the harmlessness and efficiency of the vaccine it may be found that all new-born infants should be vaccinated against tuberculosis with "BCG."

Other observers are not so convinced as Webb. In *Am. Rev. Tuberc.*, Sept., 1929, Dr. S. A. Petroff, of the Trudeau Sanatorium, reports his finding that the inoculated cultures can and do produce tuberculosis. In his conclusions he says: "We have now reached the cross-road and must decide as to what course we must pursue in our campaign against tuberculosis. Shall we tuberculize the whole world by adopting Calmette's method of vaccination, or shall we continue those preventive methods adopted some years ago. . . ?"

Dr. C. Kereszturi, of New York City, reports, in the same journal and issue, based on the use of "BCG" in 183 cases, that infants of tuberculous mothers, promptly vaccinated by mouth, do not acquire tuberculosis so readily as do the unvaccinated.

### Emphysema Simulating Cardiac Decompensation

In *J.A.M.A.*, Nov. 2, 1929, Dr. W. B. Kountz and associates, of St. Louis, report that several cases of advanced emphysema were found, in which peripheral signs of cardiac decompensation appeared without demonstrable heart lesions. Cases of emphysema and heart failure do coexist, but usually, in these, the cardiac symptoms are the prominent ones and the emphysema is not severe.

In the authors' series, the emphysema was advanced, with a definite etiology pointing to a bronchial lesion or one of the chest wall. The definite peripheral signs in these cases do not apparently affect the heart. Emphysema which affects the heart is usually bilateral.

### Ultraviolet Irradiation During Lactation

In England the Medical Research Council, basing its decisions chiefly upon laboratory and other experimental studies, has pronounced, in general terms, against the claims advanced for ultraviolet irradiation in various conditions of debility.

In *Brit. J. Actinotherap.*, Nov., 1929, Dr. Dora E. Bunbury takes up the clinical aspect. From 1925 to 1928 she has seen a number of nursing mothers, who were either debilitated or had a poor supply of milk or whose offspring were not thriving, subjected to daily doses of ultraviolet rays.

Commenting on the conclusions reached by the Medical Research board, based on statistical data, in the light of her own experience, Dr. Bunbury suggests that figures are not the only

aim in medicine; she has vividly in memory many despondent, dejected, and debilitated mothers who, as a result of a carefully planned course of treatment, "Have been able to return to their household duties with something of that intangible 'tone' that no measurements and no statistics can set out graphically, but which can only be measured by the trained clinician in constant touch with the sick, or by a good mother."

### Activated Ergosterol (Viosterol) in Radiation Sickness

The reactions experienced, following radiation treatment by roentgen-rays or radium, may be immediate or late: The immediate reaction may comprise malaise, loss of appetite, headache, fever, nausea, etc.; the late reactions cause nausea, abdominal pain, fever, diarrhea and cachexia.

Various theories of causation have been put forward, but disturbance in calcium balance seems the most plausible. For this reason, treatment by activated ergosterol (viosterol) has been suggested and tried.

In *Am. J. Surg.*, Dec., 1929, Dr. L. A. Smith, of Indianapolis, reports that, in 55 cases so treated, most of the patients received the medication after the first day's fraction of the dose of radiation had been given; but when the viosterol was begun 12 to 24 hours before any radiation treatment, the results were markedly improved. Four (4) minims was the dose, twice a day for the adult; when symptoms threatened, in spite of the routine prophylaxis, a dosage of 8 minims, three times a day, was occasionally ordered, with apparent benefit. As a rule, the viosterol was discontinued 12 to 24 hours after completion of the radiation treatment.

Seventeen (17) patients, previously nauseated by irradiation, experienced no nausea following viosterol; 29 patients, not previously irradiated, experienced no nausea during irradiation treatment after viosterol; in 10 cases the patients were nauseated, even though taking viosterol, but in several of these there were definite causes that might account for the nausea.

All the usual reaction symptoms except, possibly, diarrhea are, as a rule, relieved, and there is a feeling of wellbeing from the use of viosterol. The action is probably effected in some way through the calcium-phosphorus metabolism, but there is some evidence that it may be brought about through prevention or reduction of hyperirritability of the vagus.

### Differentiating True Kidney Pain from "Kidney Colic"

True kidney pain is caused by acute or chronic tension upon the kidney capsule or inflammatory changes in the perirenal tissues or a combination of both. Also there may be direct injury by destructive processes of the renal plexus.

In *Urologic and Cutan. Rev.*, Dec., 1929, Dr. N. Blaustein, of New York City, states that it is never correct to speak of renal colic *per se*, for, in the kidney itself, the factors for the

production of such "colicky" pains are absent, such pains occurring only in hollow organs.

The conditions that produce stretching of the capsule of the organ are: Embolism of the renal arteries; tuberculosis of the kidney; renal congestion; new growths of the kidney; acute and chronic nephritis; paroxysmal hemoglobinuria; movable kidney.

Pain may be caused by distention and muscular spasm along the urogenital tract in: Stenotic processes (calculus, etc.); inflammatory processes (pyelitis).

A true kidney pain is occasionally caused by a sudden rise in intracapsular pressure, due to parenchymatous hemorrhage, in such conditions as vascular growth, "essential hematuria" or acute exacerbations of chronic nephritis.

### Glycerin Dressings for Suppurative Wounds

In Illinois M. J., Dec., 1929, Dr. M. E. Lichtenstein, of Chicago, from the experience of several thousands of dressings in which glycerin was employed, has found that when chemically pure glycerin is applied, at or slightly above body temperature, to a suppurative wound, it aids in diminishing the amount of wound exudate. Spreading lymphangitis and tissue swelling may be inhibited or diminished by frequent applications of this substance.

Removal and reapplications of dressings impregnated with glycerin are not painful and do not occasion so much discomfort as dressings commonly do in suppurative wounds.

The author is of the opinion that, following the establishment of drainage from infected wounds subsequent to the use of hot, wet dressings, glycerin applications are of distinct value in avoiding maceration and the development of superficial infections that commonly follow continuance of hot, moist applications.

### Pain in Abdominal Emergencies

Some valuable differential diagnostic points connected with pain in acute abdominal conditions are given by Dr. H. W. Carson in *Practitioner*, Lond., Dec., 1929.

In an acute abdominal emergency, pain is always the first symptom, so that, if any other symptom precedes it, doubt as to a surgical emergency arises.

The severity of pain at the onset is a guide to the urgency of the condition.

In cases associated with widespread peritoneal irritation, the initial pain is succeeded, in four or five hours, by a temporary lull during which all the cardinal signs and symptoms may be in abeyance.

The position of the pain is important. In ordinary acute, diffuse peritonitis, as in acute appendicitis, the pain is at first centralized round the umbilicus and only later goes to the right iliac fossa; in massive extravasations, as in gastric perforations, the fluid floods the lower surface of the diaphragm and gives rise to shoulder pain; while in duodenal perforation, the pain may be in the right iliac fossa.

In acute hemorrhagic pancreatitis, pain in the back is very insistent.

In some cases of large-intestine obstruction, with distension, the pain is felt just proximal to the obstruction, particularly in pelvic colon cases; but in others, owing to the distensible nature of the cecum, pain is felt more in the right iliac fossa, wherever the obstruction is in the large gut.

Pain affects the individual according to its cause. Peristaltic pain induces movement, so that patients roll about and double themselves up, and almost invariably obtain relief by pressure. Inflammatory pain induces patients to keep as still as possible.

In acute, diffuse peritonitis, vomiting follows pain at the onset, but is not repeated until the late stages. Vomiting, in small-intestine obstruction, is insistent. The vomiting in acute pancreatitis is characteristic and, when known, is unforgettable.

### Sodium Ricinoleate in Intestinal Allergy

Allergic manifestations may occur in the intestinal canal, due to the absorption of bacterial poisons from the bowel.

Drs. Roger S. Morris and Stanley E. Dorst report, in *Am. J. Med. Sc.*, for Nov., 1929, that the daily administration of from three to six 5-grain capsules of sodium ricinoleate (Soricin) has relieved many of the symptoms caused by intestinal autointoxication. The usual dose is one capsule before each meal and at bed time.

These authors are continuing their clinical investigations along this line.

### Sterilization: Indications and Limitations

In *New York St. J. Med.*, Oct. 1, 1929, Dr. S. J. Appelbaum, discussing sexual sterilization from the therapeutic and sociologic aspects, arrives at these conclusions:

1.—Sterilization during pregnancy is indicated in the presence of an incurable, progressive disease, if the judgment is that the pregnancy should be interrupted.

2.—Sterilization is indicated at the first cesarean section, if a chronic, progressive disease, such as would make future pregnancies dangerous, complicates the indication for the cesarean section.

3.—Sterilization is indicated, possibly, after the third, and more certainly after the fourth, cesarean section, even if the indication for the section is not complicated by the presence of pathologic conditions.

4.—Sterilization is indicated to prevent procreation by such as potentially would bring forth children with an inherited tendency to crime, insanity, feeble-mindedness, idiocy or imbecility.

5.—Sterilization in the female is best performed by double ligation, section and burial of the ends of the Fallopian tubes.

6.—Sterilization of the male is best performed by ligation and section of the vasa deferentia.

7.—The question of sterilization with reference



to the above group should be viewed as a problem in preventive medicine.

8.—Although New York State courts have declared its sterilization statute unconstitutional, the United States Supreme Court has declared a similar statute of Virginia to be constitutional.

9.—Sterilization, as applied to defectives, is a medical-social problem. The medical profession, through its State Society, should take the leadership in the solution of this problem.

### Late Skin Stigmata of Syphilis

In *Journal-Lancet*, Sept., 1929, Dr. M. H. Ebert gives the following as the late skin stigmata of syphilis:

1.—The elementary lesions are small lumps or nodules in the dermis or true skin. Usually, but not always, they are brownish-red in color.

2.—These nodules are almost always grouped in a peculiar fashion, and tend to heal spontaneously in the course of a few weeks, either with or without ulcerating, and almost always they leave tell-tale scars which are delicate, pliable and nondeforming.

3.—New nodules form at the periphery or at one side of the original lesion. This gives the arciform or circinate outline, with a clearing center and progressing margin, that has led so often to the diagnosis of ringworm, which it may resemble.

4.—The disease is nearly always active in the skin on a relatively limited portion of the body at any one time, and is usually nonsymmetrical.

5.—While the whole group may slowly progress for months or years, the individual nodules heal in the course of a few weeks.

6.—Ulceration is often difficult of detection. Crusts may masquerade as scales and only careful examination detect the presence of small punched-out ulcers which are characteristic of syphilis.

The late skin manifestations of syphilis must be differentiated from ringworm, lupus vulgaris, psoriasis, acne rosacea, rodent ulcer, blastomycosis of skin, and tuberculides.

### Ephedrine in Allergic and Skin Diseases

Dr. J. C. Carter, of Marshall, Tex., in *Tri-State M. J.*, Nov., 1929, reports that his observations of the symptomatic treatment of asthma with ephedrine has led him to try it in all cases. It will give the desired result in about half the cases.

Hay-fever or vasomotor rhinitis will often yield to ephedrine; it can be used in severe anaphylactic reactions and may be a life-saving measure; the urticarias following serum, drugs (including arsphenamine urticaria), or food administration are fairly easily controlled by ephedrine, given by mouth.

Several cases of *eczema*, in adults, have been seen to clear up in a few days following administration of ephedrine.

Dr. Carter has found ephedrine so efficacious in the treatment of *dermatitis venenata* from poison oak or ivy, that he has discontinued all

other treatments. In a very severe case of weeping, vesicular, poison-oak, dermatitis, with much edema, which involved the lower part of the body entirely, from the waist down, the patient was given a prescription for several capsules of ephedrine sulphate  $\frac{3}{4}$ -grain (0.048 Gm.) each, with directions to take one every 6 hours. On the following day the edema had completely disappeared, the lesions were drying and he was free from pruritus. The drug was continued for two more days and, although the reaction was severe, the man made a complete and rapid recovery.

### Pain in Gynecology

Pain is a common gynecologic symptom. In *Practitioner*, London, Dec., 1929, Dr. A. Goodwin classifies these pains as: (a) Menstrual and premenstrual; (b) backache and bearing down; (c) dyspareunia; (d) dysuria; (f) acute abdominal crises.

The causes of such pains are grouped as follows: (1) Colic of uterus or tubes; (2) pressure on ovaries, pelvic nerves, ureter, bowel, bladder or urethra; (3) inflammatory edema; (4) passive congestion; (5) excessive range of movement in the joints.

It is in the diagnosis and treatment of cases of chronic pain in women that pitfalls abound. Dr. Goodwin remarks that, except where such pain is due to an obvious organic defect or the presence of pus, operation should be the last and not the first line of treatment, and it is here that medical gynecology has its widest scope. Heat, whether in the form of douches, diathermy, antiphlogistic packs or baths, is a most valuable asset; free purgation, with massage and exercises, are others; and perhaps the most important of all is the ability to make the patient feel that one has the time to listen carefully to her many and varied troubles.

### Tuberculous Tracheobronchial Glands in Children

According to Drs. P. Armand-Delille and C. Lestocquoy, of Paris, France, in *Am. J. Dis. Child.*, Dec., 1929, a diagnosis of tuberculosis of the tracheobronchial glands should not be made if only a positive Pirquet cutaneous reaction and more or less confirmed clinical and roentgenologic signs are present, when all members of the family and those surrounding the family are non-tuberculous. On the other hand, the diagnosis must be strongly suspected when the child has been in close association with tuberculous persons.

Children are found apparently in good health who present tuberculous tracheobronchial glands. But there are many children, who have straight chests, delayed growth of the bones and muscles and poor nutrition, who are not tuberculous.

Casated tracheobronchial glands in infancy are difficult to diagnose. The physical signs, such as dulness and D'Espine's sign (abnormal bronchophony over the spinous processes), are not constant; the Pirquet test is also not sufficient. The only way to arrive at a proper diagnosis is to supervise all children who have been in

frequent contact with a germ carrier and to have good roentgenograms (frontal and lateral) carefully examined, comparing them with films from other cases in which roentgenographic observations have been checked at autopsy.

In typical cases, the roentgenograms (frontal and lateral) show ramifications which allow one to arrive at a precise diagnosis. In the frontal view there is a rounded shadow with distinct edges, which overlaps by about 1 cm. the shadow of normal concavity produced by the superior vena cava and innominate trunk. In height, its upper extremity reaches the shadow of the clavicle; the lower extremity descends to the level of the junction of the cardiac edge and the shadow of the superior vena cava.

Inside the border of the shadow of the lymph node is the tracheal clearness; this tracheal clearness is usually central but may be deviated or contracted.

In less typical cases there is only an enlargement of the shadow of the pedicle of the heart on the right side, with indefinite contour.

## The Tuberculin Skin Reaction

In *Am. J. Dis. Child.*, Dec., 1929, Dr. Chas. H. Smith, of New York, summarizes the present aspects of the tuberculin skin reaction in the diagnosis of tuberculosis.

The value of the tuberculin reaction is generally misunderstood by the medical profession. The impression exists that nearly all children are infected. This opinion was based on widely promulgated early European statistics from von Pirquet tests. While this test is very simple, it is erroneous and unreliable and has been, to a very large extent, replaced in large institutions by the Mantoux test.

The Mantoux, or intracutaneous, test is performed by injecting into the epidermis a dilution of old tuberculin—generally 0.05 to 0.1 cc. of a 1:1000 dilution, in isotonic salt solution. The reaction appears in from 24 to 48 hours; it is of the same nature as that of Pirquet, but is much more definite. It is also much more certain than the Pirquet test, because the tuberculin is injected into the exact layer of cells which react and cannot be wiped off as in the epidermal method.

The early German tuberculin reaction test showed a high incidence of infection—up to 50 percent at 5 years, and 94 percent at puberty. American tests gave an incidence of less than half this puberty figure.

Smith reports the results of Mantoux tests made on all children in the wards of the children's medical division, Bellevue Hospital, New York, 1921 to 1929. These included 7,668 children, from birth to 13 years old. Children in the first 6 months showed about 3.38 percent positive reactions; up to 2 years old, from 8 to 12.5 percent; from 2 to 6 years, from 15.6 to 18 percent; from 10 to 13 years old, the percentage varied from 26.3 to 29.7 percent. These figures are much below European statistics. The majority of American children are not infected by the time of puberty.

Nevertheless it is of importance that the children who are infected should be watched

throughout childhood and the stress of adolescence.

As a rule, children with tuberculous infection have the disease mostly in lymphatic tissue where it is easily encapsulated and where scar tissue does no great harm. Under intelligent care they do well. If more important organs are involved, the damage is greater and the cure difficult or impossible. In all cases early diagnosis is a desideratum.

## Local Immunity

In a summary of the literature on local immunity in *Internat. Med. Digest*, Dec., 1929, it is pointed out that Besredka believes that the reaction to some infectious diseases is not a reaction of the organism, but is confined to certain tissues or groups of tissues. In the case of anthrax and staphylococcal and streptococcal infections, the tissue of election for the bacterial attack is the skin, and in the case of dysentery and typhoid, the intestinal tract. Immunization is obtained by the effect of cutaneous or intestinal-wall vaccination; namely, local immunity. Besredka's experimental investigations apparently confirmed the truth of his assertions.

The keynote of Besredka's theory is that, irrespective of the final distribution of invading microbes, some particularly vulnerable portal of entry and a lesion of it are essential for infection.

Several investigators have demonstrated clinical proof of the value of Besredka's local immunity, with autogenous bacterial filtrates of cultures of bacteria from sinus and ear infections, erysipelas, etc., and there can be little doubt that the revelations concerning local or tissue immunity have completely revolutionized all previous ideas concerning immunity.

## Urticaria and Angioneurotic Edema

In *Ann. Intern. Med.*, Dec., 1929, Dr. G. T. Brown, of Washington, D. C., states that 58 percent of a series of 160 patients with urticaria or angioneurotic edema were found to have a definite calcium deficiency and that such patients should be given calcium lactate and parathyroid extract, orally, with the addition of air-cooled quartz lamp treatment. Five (5) Gm. (78 grains) of calcium lactate powder in a glass of water should be taken twice daily by adults, before meals. Children are given 25 grains (1.62 Gm.) thrice daily. The dose of desiccated parathyroid is 1/10 grain (6.4 mgm.) for adults, and half this amount for children, three times daily, before meals.

In urticaria, as in other allergic conditions when the exact cause cannot be found, some form of non-specific therapy should be tried. The author recommends peptone solution, and suggests Schiff's preparation, consisting of equal parts of desiccated peptone, glycerin and water, the patient being first carefully tested for sensitization. This solution is given undiluted, the initial dose being one minim, injected intradermally; the second dose two minims, intradermally; and the third dose three minims, intradermally or subcutaneously. Subsequent doses should be increased by one minim each time, up

to a maximum dose of sixteen minims (1 cc.). All large doses (above 3 minims) should be given subcutaneously. The injections are given once or twice a week, usually the latter.

Desiccated peptone, in capsules of  $7\frac{1}{2}$  grains (0.49 Gm.) for adults, taken orally before meals, tends to desensitize against various food proteins.

### Prognosis in Eye Injuries

Discussing the prognosis in various eye injuries, based on his personal experience, Dr. J. A. Donovan, Butte, Mont., in *J.A.M.A.*, Dec. 21, 1929, remarks that there will be never a time when any man or group of men can foretell the possible results in severe eye injuries, but the probabilities are that useful eyes can be obtained in a great majority of cases.

While not unmindful of the great calamity, sympathetic blindness, the author feels that, with improved therapeutic methods and careful observation, its possibilities may be more frequently eliminated at not too great a cost. Of course, when infection is imminent, mutilation is beyond repair, the patient's lost time is of vital importance, or other conditions are present in which the eye physician must be the sole judge, immediate enucleation is imperative. When ultraconservatism fails, that most satisfactory operation, enucleation, is always at one's command.

The public has acquired the opinion that enucleation is of preeminence in surgery. The patient becomes a hero, and the physician is soon forgotten; so, naturally, it may always be the surest and easiest way out for the operator who is unwilling to assume unnecessary responsibility. The saying "Dead men tell no tales" may be paraphrased in ophthalmology to, "The enucleated eye relieves all worries."

### The Carbon Arc Lamp

In *M. J. and Record*, Dec. 4, 1929, M. J. Dorcas, of Cleveland, points out that spectrographic analysis of the light from the glowing ends of pure carbon electrodes shows it to consist of radiations of all wave lengths, from the long ultraviolet to the long infrared. The ultraviolet of short wave length is very slight in quantity.

Analysis of the light that comes from the path of the electric current through the air between the carbon electrodes shows it to be quite different. There is some violet light and some bands of near-ultraviolet and practically all other kinds of radiation. There are hardly any ultraviolet rays of wave lengths shorter than 3,400 A.U.

Light from the arc stream is modified when certain gases are introduced into it. This has been found practicable by incorporating certain metals into the carbon electrode. The metal fuses and its vapor or gas is fed into the arc stream. For therapeutic purposes, three types of metal-carbon electrodes have been found to suffice.

Electrodes of carbon, to which iron, aluminum and nickel have been added, give a large amount of ultraviolet radiation shorter than

3,500 A.U. This type of arc stream produces twenty-five times as much biologically active ultraviolet energy as the old-fashioned, plain carbon-electrode lamp.

Carbon mixed with cerium gives a nearly continuous spectrum from 3,000 A.U. to the infrared, and is nearly the same as outdoor summer sunshine. Electrodes of carbon mixed with strontium give much red and infrared radiation.

Thus, with a carbon lamp, by changing the carbons, any type of therapeutic radiation desired may be obtained, and intensity is regulated by varying the power applied to the arc.

### Gélineau's Narcoleptic Syndrome

In *Arch. Neurol. and Psychiat.*, Dec., 1929, Dr. Max Levin, of Philadelphia, gives a historical survey and discussion of the condition known as Gélineau's syndrome.

Gélineau's syndrome is a condition marked by the presence of morbid somnolence and cataplexy (relaxation of the muscular apparatus during emotional display). This condition has usually been referred to as narcolepsy, but that term has also been applied to other conditions. The term Gélineau's syndrome is less ambiguous, and hence preferable. Morbid somnolence, unaccompanied by cataplexy, occurs in a variety of physical and mental disorders, especially in organic disease of the brain and in endocrine disorders.

Sixty-six (66) cases of Gélineau's syndrome have been found in the literature, and five (5) more cases, personally observed by the author, are reported in this paper. In none of the five cases was there evidence that the patient had had encephalitis. In only one case was this considered even a remote possibility. In one case there was evidence of hypothyroidism. Three cases of morbid somnolence without cataplexy are also reported. One occurred in a young man with a history suggestive of encephalitis, and one in a girl aged 10 years who was mentally retarded and "constitutionally" somnolent.

### Dosage in Light Therapy

W. T. Anderson, Ph.D., of Newark, N. J., in *M. J. and Record*, Dec. 4, 1929, remarks that, in light therapy, dosage has been founded on empiricism rather than on exact scientific knowledge. The great variability of patients and the extensive use of light as an adjunct in the treatment of so many dissimilar conditions, as well as laboratory experiments on animals, indicate that light dosage is not critical.

The intensity of a light source is of but comparative interest; the intensity of the light falling upon the patient is the important factor.

There are many highly technical means of measuring light intensity, as described by the author.

The familiar method for determining the ultraviolet intensity of the quartz-mercury arc has been the erythema response. This method has always had the advantage that it simultaneously established the sunburn tolerance of the patient, a factor which must always receive consideration when a light source containing appre-

ciable ultraviolet energy is employed. The variability of erythema response makes it evident that this method of measuring light intensity can result only in an approximation. However, in view of the apparently noncritical nature of light dosage, this method of gauging intensity from sources rich in ultraviolet rays may be sufficiently accurate for many purposes.

The proper time of exposure to light and its intensity can be best determined by personal experience and consideration of the experience of others, as given in the literature. Such knowledge, together with a knowledge of the patient, is the present-day guide to dosage in light therapy.

### Ethical Medical Advertising

The A.M.A. approves of educational advertising, provided it appears under the auspices of one of its component (society) or constituent (State) associations.

The first member group to take advantage of this ethical campaign method was the associated physicians of El Paso Co., Texas, in connection with violations of the Medical Practices Act of that state. The Bergen County Medical Society, of New Jersey, advertised a weekly health bulletin.

The latest campaign is that being conducted by the five county members which constitute the New York membership of the A.M.A. They pay for space for seven advertisements in the New York newspapers. These advertisements include periodic health examinations, advice to women, and other matters of vital public interest. In addition, posters and pamphlets are distributed over the state.

The results of this campaign will be published in due time and will be of much interest to medical bodies throughout the whole country.—*Printers' Ink*, Dec. 5, 1929.

### Cereals and Rickets

In *J.A.M.A.*, Dec. 14, 1929, H. Steenbock and associates, of the Laboratory of Agricultural Chemistry, University of Wisconsin, record experimental investigations regarding the effects of cereals, irradiated with ultraviolet rays, upon rickets in animals.

It was found that various cereal products; viz., whole wheat meal, patent white flour, shredded wheat biscuits, cream of wheat, whole corn meal, corn flakes, hominy and rolled oats were made antirachiticly active by irradiation with ultraviolet rays.

This activity was found stable to autoclaving for thirty minutes at 15 pounds pressure, followed by drying at 60°C. for a few days. Storage for sixteen months at 60°C. or at lower temperatures did not cause destruction, but after from twenty-three to twenty-eight months there was a decrease in potency. However, long before this time, even untreated cereals kept at 60°C. were rendered too unpalatable for human use. Household cooking does not have any effect on the activity.

Vitamin A and vitamin B complex are labile to ultraviolet radiations, but evidence of their destruction in cereals can probably not be obtained with such an exposure as is necessary to secure maximum antirachitic activation.

The commercial irradiation of cereals was standardized so that the activity induced did not exceed by a multiple of 3 that necessary to form bone of maximum ash content, thus preventing change in palatability, destruction of vitamins and all possibility of hypervitaminosis.

By the feeding of commercially irradiated rolled oats, rickets was prevented in dogs and rats and no interference in growth or in reproduction was shown in the latter over a period of fifteen months, in four generations.

### Tonsil Surgery

From his experience of over 33 years, Dr. Herbert Tilley, of London, Eng., in *Laryngoscope*, Dec., 1929, stresses some points connected with the removal of tonsils.

The so-called "recurrent" tonsil may not always be what is operatively left behind, but a pushing of the lymphoid tissue upward from the side of the lingual tonsil. It would appear that Nature insists on having some protective lymphoid tissue in the oro- and nasopharyngeal regions.

In the presence of acute rheumatic infection, with cardiac involvement, the removal of the tonsils may precipitate a fatal cardiac lesion.

In regard to operative hemorrhage: In every patient, old or young, Dr. Tilley ligates the descending branch of the posterior palatine artery and, if necessary, the tonsillar branch of the facial artery, in the lower region of the tonsil recess. No patient is allowed to leave the operating table until the tonsil beds are dry. The time required for such operative details rarely exceeds 10 or 12 minutes.

Dr. Tilley remarks: "I know it requires considerable practice and some little dexterity to recognize and tie the chief arteries which supply the tonsils, but surely it is our bare duty as experts to attain some particular skill in our craft."

# NEW BOOKS

## Fowler: Tonsil Surgery

**TONSIL SURGERY.** Based on a Study of The Anatomy. By Robert H. Fowler, M.D., Fellow of the New York Academy of Medicine; Fellow of the American Laryngological, Rhinological and Otolological Society; Chief Surgeon of the Tonsil Hospital, New York, etc. 103 Illustrations, Including 10 Full-Page Color Plates. Philadelphia: F. A. Davis Company, 1930. Price \$10.00.

Tonsillectomy is, perhaps, the most extensively practiced surgical operation at the present time, or rather, to put it less euphemistically, the most "unsurgically" performed operation; for it is almost a commonplace that, for lack of accurate anatomic knowledge the operation, in a very large percentage of cases, is not a true *ectomy*, recurrences from tissue left behind being quite frequent, or else appalling hemorrhages due to improper hemostasis being, to say the least, not unusual.

In this new manual devoted to surgery of the tonsil, Dr. Fowler gives the results of many years of research, by himself and his associates, into the anatomy of the tonsils and their surrounding structures. It is claimed that, through the discovery of the tonsillopharyngeus muscle and its relations with the capsule, a marked improvement in the technic of complete removal of the tonsil has been realized. The new operation described by the author is stated to remove the whole tonsil in its capsule, without traumatism to the other tissues, while leaving the fossa covered with an intact fascia. If the results of this operative technic be verified by other reliable operators, it will mark, not only a new era in tonsillar surgery, but a distinct advance in surgery which should also be a decided benefit to humanity. The vast number of children who, according to our present conceptions and knowledge, are obliged to submit to this operation would be spared much suffering and danger.

The author's views in regard to the more wholesale application of early tonsillectomy may, perhaps, be open to a difference of opinion, in the face of changing views of the importance of tonsillar disease; yet, until information is more definite and crystallized, such a view will attract many adherents.

The work describes all the more important methods of tonsillectomy. The author shows that, while they differ in method, they all agree in their ultimate goal—that of a muscle-free dissection. This leads, naturally, to the improved operation which he describes.

Illustrations, both anatomic and technical, are scattered profusely throughout the text and add

very considerably to its value. A number of these are in colors.

On the whole, this book must be considered as a very valuable addition to the literature of tonsil surgery and one which no laryngologist can afford not to have available for consultation. It should also be vastly helpful to practitioners who aspire to do their own tonsillectomies. The bookmaking is excellent; the typography is clear and very easily read; there are wide margins and the paper is of good surface and thick.

## Bailey: Physical Signs in Surgery

**DEMONSTRATIONS OF PHYSICAL SIGNS IN CLINICAL SURGERY.** By Hamilton Bailey, F.R.C.S. (Eng.), Surgeon, Dudley Road Hospital, Birmingham; late Honorary Assistant Surgeon, Surgical Registrar and Tutor, Liverpool Royal Infirmary; Surgical Registrar and First Surgical Assistant, London Hospital, etc. Second Edition. Revised and Enlarged. With 306 Illustrations, Some of Which are in Colour. New York: William Wood and Company, 1930. Price \$6 50.

This is a remarkably practical book for the diagnosis of surgical conditions. The value lies in the detailed methods of eliciting and appreciating minor signs which are more or less pathognomonic for certain conditions—signs which are not usually described in textbooks but have accumulated as the result of experience.

There are 24 chapters, with an appendix, which follow the different regions of the body. The illustrations are copious (there are more than 300) and bring out with exceptional clearness the particular diagnostic signs and methods which the author stresses.

Although these notes were originally intended only as demonstrations for senior students, they will be found of immense value to the general practitioner and surgeon in the physical examination of patients, and should be in the hands of every intern and young physician, as we have seen no book which covers this ground so well.

## Beckman: Treatment

**TREATMENT IN GENERAL PRACTICE.** By Harry Beckman, M.D., Professor of Pharmacology at Marquette University, Milwaukee, Wisc. Philadelphia and London: W. B. Saunders Company, 1930. Price \$10.00.

The author believes that insufficient consideration is given to the teaching of therapeutics in the medical schools of the country and that the average young practitioner is turned loose with the belief that a knowledge of proper treatment



will somehow "come," if the art of diagnosis has been mastered. The present volume has been written with a view to remedy, so far as possible, this defect in teaching.

In the book, which may be described as a digested and evaluated compilation, all the principal diseases of man have each its own peculiar therapy described. The therapy is that given in the literature by accepted authorities who are cited and, in some cases, their actual descriptions given in full. There is necessarily a certain amount of controversial matter when authorities differ, as in the case of peptic ulcer for instance.

There are but few books, which, like this, bring together a vast amount of information regarding the treatment of specific conditions. It is, not only valuable for the inexperienced young doctor, who can pick out a tried treatment, but also for the experienced practitioner, who can compare what he has found satisfactory or otherwise with the practice of others and perhaps learn much to his advantage.

The book is one for desk reference. It contains a good index and an extensive bibliography.

### Pottenger: Visceral Disease

**SYMPTOMS OF VISCERAL DISEASE.** A Study of the Vegetative Nervous System in its Relationship to Clinical Medicine. By Francis Marion Pottenger, A.M., M.D., LL.D., F.A.C.P., Medical Director, Pottenger Sanatorium for Diseases of the Lungs and Throat, Monrovia, California; Author of "Clinical Tuberculosis," etc. Fourth Edition. With Eighty-Seven Text Illustrations and Ten Color Plates. St. Louis: C. V. Mosby Company. 1930. Price \$7.50.

Dr. Pottenger's book deals with the application of certain physiologic principles, especially those of visceral neurology, to clinical practice. Looked at in the strictly clinical sense, it shows the necessity for clinicians to be able to distinguish symptoms arising apparently or really from the viscera and to classify such symptoms as of purely organic or reflex origin. Reflex symptoms due to sympathetic nervous interrelationship are found in the everyday clinical observations of visceral diseases and their mistaken interpretation is responsible for a large amount of wrong treatment, especially surgical.

From what has just been said it will be seen that the work would more properly be classified as a study of pathologic physiology.

There are three parts: Part I covers the vegetative nervous system, which forms the basis of the reflex symptoms principally dealt with. Part II is devoted to the relationship between the vegetative nervous system and the symptoms of visceral disease. This includes the symptoms arising from the various viscera. The innervation of important viscera, with a clinical study of the more important viscerogenic reflexes, is given in Part III. This appears to be the part of the monograph that shows the most original work.

This volume should be of very great value to the internist as well as to the clinical surgeon. Its study should lead to more accurate clinical observation and a better understanding of the patient himself, rather than the stereotyped con-

sideration of his case from an orthodox symptom complex or definite disease entity point of view. There undoubtedly is, too frequently, a tendency to diagnose and treat on the basis of symptoms which are often purely reflex.

The fact that the work has run into four editions would imply that its value is fully appreciated by the profession.

The book is clearly printed and legible; the illustrative are clarifying and there is a good index.

### Lusk: Science of Nutrition

**SCIENCE OF NUTRITION.** By Graham Lusk, Professor of Physiology at the Cornell University Medical College, New York City. Fourth Edition. Philadelphia: W. B. Saunders Co. 1928. Price \$7.00.

There are a great many physicians who attempt to "get by" in the practice of medicine without a good fundamental knowledge of nutrition. Those physicians place themselves in the same precarious situation as the motorist who ventures forth on a trip in his automobile without the protection of a spare tire. The "spare tire" in medicine is a knowledge of nutrition; not in the sense of its being an accessory piece of equipment to be used only in case of emergency, but rather it is something which the physician must hold uppermost in mind when serving his patients. A good basic knowledge of nutrition is indispensable to the practicing physician, especially when he is called upon to treat gastrointestinal disease or metabolic disorders in general. During the last decade, new ideas and discoveries have been introduced to make the relationship of nutrition to health and disease more intimate than ever before. Today, we can conservatively say that an etiologic factor in all disease is faulty nutrition.

For more than twenty years, "Science of Nutrition," has been a standard source of information for students. The author's aim has always been to review the scientific foundation upon which rests present-day knowledge of nutrition, both in health and disease. In this book nothing is taken for granted; all statements are supported by valid proof and sound evidence. This is one of the principal reasons for its popularity as a textbook and reference book on the subject of nutrition.

The text includes a comprehensive review of the metabolism of fats, carbohydrates, proteins, mineral salts, water and vitamins. A few of the other features presented by the author are metabolism in health and disease, the influence of endocrines on metabolism, the constitution of a normal diet, and food requirements of the child and adult. The technical matter is intelligible to anyone possessing even a fair knowledge of physiology and biochemistry. The text is supplemented by a complete bibliography of the subject of nutrition.

After studying the contents of this book, the physician will be impressed with the fact that the best way to a patient's heart is "through his stomach."

H.J.C.

## Pool & McGowan: Surgery 100 Years Ago

**SURGERY AT THE NEW YORK HOSPITAL ONE HUNDRED YEARS AGO.** By Eugene H. Pool and Frank J. McGowan. 24 Full-Page Plates. New York: Paul B. Hoeber, Inc. 1930. Price \$1.50.

The New York Hospital is the second oldest in America, having been founded by Royal Charter in 1771. Although a strictly medical institution, it has been held responsible for some of the most important early developments of surgery in the United States.

The present book is mainly an account of early surgical practice (as illustrated by original case histories) from the early records of the hospital. It gives exact pen pictures of the surgical methods in vogue a hundred years ago. While the men who carried out amputations and the ligation of important aneurisms in these days were brilliant, the surprise is, not that the patients should have been saved by surgery, crude as it was compared to that of today, but that any could survive the drastic practices of bleeding and purging which were then deemed necessary.

This is a book for the doctor of culture who is interested in the history of his profession. It is a library piece. A special autographed edition, limited to 200 copies, printed on Kelmscott hand-made paper with illustrations on Japanese vellum is also available, and those who desire a copy should communicate with the publishers.

## Davies: Surgery of the Lung and Pleura

**SURGERY OF THE LUNG AND PLEURA.** By H. Morrison Davies, M.A., M.D., M.Ch. (Cantab.), F.R.C.S. (England), Medical Superintendent, Vale of Clwyd Sanatorium; Consulting Surgeon to University College Hospital; etc. London and New York: Humphrey Milford, Oxford University Press. 1930. Price \$8.00.

A great part of the surgery of the chest is a development of the past 25 years.

Dr. Davies' "Surgery of the Lung and Pleura" is, apparently, a part of a series of monographs on regional surgery issued by the Oxford University Press. The author is an English authority on the subject whose reputation is not confined to his own country.

The various developments in lung and pleural surgery, including pneumotomy, artificial pneumothorax, pneumolysis and thoracoplasty, are described and illustrated and the clinical results discussed for such conditions as bronchiectasis, phthisis, empyema, etc. The author acknowledges the important contributions to thoracic surgery by Murphy, Graham, Hedblom and other American surgeons. The newer diagnostic measures, such as the injection of halogenated oils, are also included.

While fully conversant with the value or even the necessity for surgical operations in certain circumstances, the author is not, apparently, essentially a surgeon, but a physician who believes in and practices medical treatment when such is indicated and operates only when he must and there is no other way.

The book is not cluttered with unnecessary

historical and other discussions. The author proceeds direct to his subject without preamble.

While primarily a book for the thoracic surgeon, any general surgeon or internist will find much in it that will be of value to him.

The general bookwork is excellent and there is an extensive bibliography of references.

## Benstead: Retreat

**RETREAT. A Novel of 1918.** By C. R. Benstead. New York and London: The Century Co. 1930. Price \$2.50.

We have had a spillover of war stories since 1914 (interrupted, for a few years after the Armistice, because the world was "fed up" on the whole disastrous business, but now experiencing a remarkable recrudescence), all the way from the grimly philosophic "Mr. Britling" and Ybañez' titanic spectacle of the disruption of civilization's boasted social order, to the aggregations of ordure, decomposition and sacrilegious obscenities which are finding a surprising popularity among people who would not soil their mouths by repeating the words they read with such avidity.

Here, the most stupendous picture which destiny has limned upon the canvas of history, since Atlantis was engulfed in the ocean which bears its name, is used as the lurid background for the chronicle of an agonizing personal failure—that of a scholarly and sensitive rector from rural England, too highly civilized, or too etiolated by the formalized dogmatism of a medieval church surviving into the twentieth century, to gain any insight into the maelstrom of slaughter into which he felt that God had called him to go or to establish any psychic or spiritual contact with the men he so earnestly yearned to serve.

With deceptive simplicity and gratifying restraint, a few of the officers and men of a British artillery brigade are vividly sketched, in the midst of the terrible days of 1918, and among them moves the pathetically ineffectual and tragically self-conscious figure of the country parson who could not believe that the few bits of the War which he actually saw were real, nor understand that his comrades in arms often swore or jested in order to keep from screaming or gibbering.

A strong and worthy study of the psychopathology of failure, in a setting of a world in chaos.

## Terrill and Ulrey: X-Ray Technology

**X-RAY TECHNOLOGY. The Production, Measurement and Applications of X-Rays.** By H. M. Terrill, Ph.D., Associate in Physics, Institute of Cancer Research, and C. T. Ulrey, Ph.D., Research Physicist, Westinghouse Lamp Company. New York: D. Van Nostrand Company, Inc. 1930. Price \$4.50.

Of the eleven chapters which make up this book, the first eight are devoted to what may be properly termed the engineering of x-ray mechanics, covering the physical principles involved in the production of these rays and their application for practical purposes.

The comparative values of various types of

tubes, the means of obtaining the greatest output of ray energy, the governing and measurement of the energy output and the spectrometric analysis of the rays all have a place here.

Only the last three chapters will be found to have special value for the x-ray medical technician or rather, as he should be called, the x-ray therapist. These chapters deal with the measurement of the biologic effects, with radiography and with x-ray analysis. This statement should, however, be qualified, in so far as every technician who deals with a physical agent should be fully conversant with every detail of the apparatus he employs and with the principles that govern it. We do not remember to have seen any other book which so well describes these principles as this one. It is written by men whose business it is to know every thing about the physics of x-radiation.

### Wright: Applied Physiology

APPLIED PHYSIOLOGY. By Samson Wright, M.D., M.R.C.P., Lecturer in Physiology, University of London, King's College. With Introduction by Swale Vincent, M.D., LL.D., D.Sc., F.R.S. Ed. & Canada, Professor of Physiology, University of London. Third Edition. New York and London: Humphrey Milford, Oxford University Press. 1929. Price \$7.50.

This textbook of applied physiology is especially suitable for students of medicine who are already familiar with the fundamental facts of general physiology. It is, to a large extent, a treatise on pathologic physiology and is a useful compendium for the student who is observing clinical phenomena in the hospital wards.

The work is very thorough in character and deals with the mechanism of all the functions of human physiology, except certain of the sensory functions.

Although in a large measure designed to meet the requirements of English medical examining bodies, the American students will find the matters dealt with and their mode of presentation valuable, and this third edition has been carefully revised to cover new fields and modifications of old ones.

### Buckstein: Peptic Ulcer

PEPTIC ULCER. (Clinical Roentgenology, With Case Histories). By Jacob Buckstein, M.D., Instructor in Gastrointestinal Roentgenology, Cornell University Medical College; etc. Introduction by Harold E. Santee, M.D., Clinical Professor of Surgery, Cornell University Medical College; etc. Illustrated. Volume Ten of "Annals of Roentgenology." Edited by James T. Case, M.D., Ex-President of The American Roentgen Ray Society. New York: Paul B. Hoeber, Inc. 1930. Price \$12.00.

The Annals of Roentgenology, of which this is volume 10, comprises a series of monographic atlases, each dealing with the x-ray diagnosis of lesions of a special region by a recognized authority in x-ray diagnosis of the particular field.

The general practitioner who must today use and evaluate x-ray evidence of lesions in all regions of the body has, in these monographic

atlases, an invaluable help in studying and comparing the findings of his own particular case and arriving at a clinical diagnosis.

Dr. Buckstein has had the advantage of studying the enormous material available in the Bellevue Hospital, New York, and of correlating the roentgenologic, clinical, surgical and pathologic aspects of his cases. The great value of this volume to the practitioner lies especially in the fact that the clinical histories are given fairly fully, with the corresponding roentgenogram, and the subsequent findings can then be compared with the diagnostic data. Very rich exemplars are furnished of gastric ulcers (both of the greater and lesser curvature), of duodenal ulcer and of gastro-jejunal and jejunal ulcers of almost every type. The roentgenologic technic is described.

Whatever differences of opinion may exist in regard to the etiology and treatment of peptic ulcers, there can be no question in regard to the desirability of being able to arrive at a correct diagnosis of their existence and of being able to check the course of their evolution toward healing or perforation.

For its general make up, the work is a joy to the lover of fine book production. Widely spaced, large, clear type, ample margins, heavy paper, numerous illustrations of sufficient size to show small details distinctly and thick board covers, offer in their ensemble a piece of craftsmanship that reflects the greatest credit on its producers.

### Medical Clinics of North America

THE MEDICAL CLINICS OF NORTH AMERICA. Philadelphia Number. Volume 13, Number 4, January, 1930. Philadelphia and London: W. B. Saunders Company. Issued serially, one number every other month. Per Clinic year, July, 1929 to May, 1930, Paper \$12.00; Cloth \$16.00 net.

The January, 1930, number of this important serial is devoted to Philadelphia Clinics and contains many instructive and practical contributions.

Of the 31 papers which make up the volume some appear to be especially of interest to the general clinician and among these are: "The Etiology and Pathology of Arthritis," by Dr. W. E. Robertson; "The Treatment of Rheumatic Cardiovascular Disease in Children," by Dr. W. D. Stroud; "Streptococci in Relation to Rheumatic Disease," by Dr. Jas. C. Small; "Postoperative Hemorrhage in Hemorrhagic Conditions," by Dr. T. Fitz-Hugh, Jr.; "The Diagnosis of Gall-Stones," by Dr. H. Shay and associates; "Angina Pectoris," by Drs. C. C. Wolferth and F. C. Wood; "Chronic Nontuberculous Pulmonary Disease," by Dr. R. C. Torrey; "The Hypoglycemia Hazard in the Treatment of Diabetes Mellitus," by Drs. G. G. Duncan and D. S. Polk; and "The Differential Diagnosis of a Case of Endocarditis," by Dr. J. H. Clark.

These clinical contributions, representing as they do the most approved methods of diagnosis and treatment, as practiced in the best institutions, offer an excellent postgraduate course to practitioners whose locations cut them off from the large medical centers.

# MEDICAL NEWS



## Dr. George Acheson Passes

Readers of CLINICAL MEDICINE AND SURGERY will feel a sense of personal loss in the passing of Brigadier General George Acheson, Medical Reserve Corps, Canadian Army, for he had been a helpful contributor to our pages, particularly to the discussions in the Seminar. The March, 1930, issue contained his last contribution and appeared some months after his death. It was a description of his own case.

Dr. Acheson was born in Galt, Ontario, Aug. 23, 1859. He received his medical education at the University of Toronto, where he was graduated with honor, after which he returned to his native town practice for some years, later moving to Hamilton.

At the outbreak of the War he volunteered for overseas service, but, on account of his age, he was kept at home, where he rendered many valuable services.

After the War he resumed practice at Kingston, New Brunswick; but, learning that the village of St. Martins, on the Bay

of Fundy, was entirely without a physician, he went there and spent the rest of his active life in ministering to those who needed him.

He passed to his rest November 26, 1929, leaving many to mourn who never saw his face, for his keen and kindly spirit had reached out widely through his writings.

The prize offers on page 6 of the January CLIN. MED. AND SURG. are worth studying.

## A.M.A. Meeting

The annual meeting of the American Medical Association will be held in Detroit, Mich., June 23 to 27, 1930, inclusive. It is not too soon to make hotel reservations, and get things in shape for attending that important meeting.

The hospitals of Detroit offer a large variety of clinical material, to meet all personal interests, and the members of the medical fraternity are very cordial to professional brethren.

Keen and active physicians can scarcely afford to miss the inspiration and instruction to be gained at these meetings.

If you missed the prize offers on page 6 of the January CLIN. MED. AND SURG., look them up or write for particulars.

## Physical Therapy Training at University of Michigan

The University of Michigan Medical School is offering a course, beginning in June, 1930, for the training of assistants and technicians in physical therapy.

The period of instruction will occupy one year and will lead to a certificate of proficiency. The total fees will amount to between \$150 and \$175. The teaching will include the necessary basic knowledge of anatomy, physiology, physics, etc., as well as practical clinical work in the Uni-

versity Hospital, which offers abundant material.

Full particulars and application blanks may be obtained from Dr. Willis S. Peck, University Hospital, Ann Arbor, Mich.

The prize offers on page 6 of the January CLIN. MED. AND SURG. are worth studying.

### Child Health Day

One of the special "Days" that merits the interest and cooperation of all physicians is Child Health Day, which is celebrated, each year, on May 1.

Read over President Hoover's

#### *Child's Bill of Rights*

The ideal to which we should strive is that there shall be no child in America: That has not been born under proper conditions;

That does not live in hygienic surroundings; That ever suffers from undernourishment; That does not have prompt and efficient medical attention and inspection;

That does not receive primary instruction in the elements of hygiene and good health;

That has not the complete birthright of a sound mind in a sound body;

That has not the encouragement to express in fullest measure the spirit within, which is the final endowment of every human being.

Those who feel like doing something about this may write to the American Child Health Association, 370 Fifth Ave., New York City, for detailed suggestions regarding helpful activities.

If you missed the prize offers on page 6 of the January CLIN. MED. AND SURG., look them up or write for particulars.

### Narcotics and the Porter Bill

The Porter Bill (H.R. 9054) purposes to establish the Commissioner of Prohibition as an absolute Czar over the prescribing of narcotics.

This bill is contrary to the interests of every practicing physician, and should be actively opposed.

Write to your congressman and urge him to work and vote against it.



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### Dr. Sabin Receives Award

An award of \$5,000 is made annually by *Pictorial Review* to the American woman who, in the opinion of a distinguished committee, has made the most distinctive contribution to the fields of American art, science or letters.

The winner of the 1928 award has recently been announced as Dr. Florence Rena Sabin, fellow of Johns Hopkins University and member of the staff of the Rockefeller Institute for Medical Research, for her contributions to medical science in her original studies of the nerve centers, the lymphatic system and the cellular elements of the blood.

Dr. Sabin was the first woman to be graduated from Johns Hopkins Medical School and the first of her sex on its teaching staff (professor of histology, 1917 to 1925), as well as being the first woman intern and staff member of Johns Hopkins Hospital. She has also had a number of other "firsts," including her position with the Rockefeller Institute.

### Tuberculosis Association to Meet

The twenty-sixth annual meeting of the National Tuberculosis Association will be held in Memphis, Tenn., May 7 to 10, 1930, preceded by two days (5 and 6) of meetings of tuberculosis secretaries. An excellent and varied program has been prepared.



For full particulars, address the Association at 370 Seventh Ave., New York City.

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### New Building for Jefferson Medical College

The new building for Jefferson Medical College, at Tenth and Walnut Sts., Philadelphia, was formally dedicated on February 22, 1930. This massive structure, with a portion of the Hospital Annex in the left background, is shown above, with a picture of the old building as an insert. This old building is being demolished to make a place for the new Curtis Clinic, which will adjoin the College building and be used as an out-patient department.

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The prize offers on page 6 of the January CLIN. MED. AND SURG. are worth studying.

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### Congress on Mental Hygiene

The first International Congress on Mental Hygiene will be held at Washington, D. C., May 5 to 10, inclusive, 1930. The president is Dr. William A. White, well known psychiatrist, of Washington. President Hoover has accepted the honorary presidency of the Congress. The American Psychiatric Association and the American

Association for the Study of the Feeble-minded will hold their annual meetings at the same time and place.

The program will cover mental hygiene as a public health problem; the care and treatment of mental patients outside of institutions; the teaching of mental health, in many relationships; and a number of other vital questions.

Full information may be obtained by addressing the Administrative Offices of the Congress, 370 Seventh Ave., New York, N. Y.

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### Index Ready

The 1929 index for CLINICAL MEDICINE AND SURGERY is now ready. It is a good index—the best we have ever prepared.

This index cost a lot of money, but is free to our readers. Write your name and address on a postcard and say, "I want the 1929 index." We will do the rest.

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### Childhood Tuberculosis

Realizing that the seeds of tuberculosis are usually sown in childhood, and that this disease carries off thousands of children every year, the National Tuberculosis Association is making a drive, during April, for the protection of the youngsters from this infection.

Any physician who is willing to help in this work, or any medical society which desires to do a bit of civic helpfulness, can obtain literature, posters, etc., from the Association at 370 Seventh Ave., New York City.

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### Hospital Wants Books

St. Anthony's Hospital, Rockford, Ill., is trying to establish a general library, and will appreciate contributions of books—scientific, fiction or what have you?

Write to Sister Evarista, at the hospital, and make arrangements for shipping your surplus books to a place where they will be appreciated.

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### New Jersey Medical Society

The New Jersey State Medical Society is older than the United States! It was organized July 23, 1766.

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# Send For This Literature

To assist doctors in obtaining current literature published by manufacturers of equipment, pharmaceuticals, physicians' supplies, foods, etc., CLINICAL MEDICINE and SURGERY, North Chicago, Ill., will gladly forward request for such catalogues, booklets, reprints, etc., as are listed from month to month in this department. Some of the material now available in printed form is shown below, each piece being given a key number. For convenience in ordering, our readers may use these numbers and simply send requests to this magazine. Our aim is

to recommend only current literature which meets the standards of this paper as to reliability and adaptability for physicians' use.

Both the literature listed below and the service are free. In addition to this, we will gladly furnish such other information as you may desire regarding additional equipment or medical supplies. Make use of this department.

When requesting literature, please specify whether you are a doctor of medicine, dentistry, medical student, a registered pharmacist, or a nurse.

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| B- 2 Your Prestige and Profit. 8-page booklet. The Carroll Dunham Smith Pharmacal Co.           | B-156 Siomine (Methenamine Tetraiodide). Pitman-Moore Company.                             |
| B- 3 Storm Binder and Abdominal Supporter. 4-page folder by Dr. Katherine L. Storm.             | B-176 The Hormone, 24 pages and cover, published bimonthly. The Harrower Laboratory.       |
| B- 5 Ethical Medicinal Specialties. 8-page booklet. A. H. Robins Co.                            | B-196 "Facts Worth Knowing." Intravenous Products Co. of America, Inc.                     |
| B- 17 An Index of Treatment. Burnham Soluble Iodine Co.   | B-236 Throughout the Span. Advanced Age. William R. Warner & Co., Ltd.                     |
| B- 45 Vera-Perles of Sandelwood Comp. Paul Plessner Co.   | B-244 I Am Oxiphen! Pitman-Moore Co.   |
| B- 47 Campho-Phenique in Major and Minor Surgery. Campho-Phenique Company.                      | B-256 The Modern Way of Giving Digitalis. Upsher Smith Co.                                 |
| B- 49 The Calcreose Detail Man. Maltbie Chemical Co.  | B-258 Prophylaxis. August E. Drucker Co.   |
| B- 95 Everything for the Sick. Lindsay Laboratories.  | B-268 Eat Uncle Sam Health Food. Uncle Sam Breakfast Food Co.                              |
| B-103 The Electron, March-April, 1930. McIntosh Electrical Corporation.                         | B-269 Special Course No. VI Traumatic Surgery. Illinois Post Graduate Medical School, Inc. |
| B-116 Hemo-Glycogen, The New Product Hemoglobin Compound and Liver Extract. Chappel Bros., Inc. | B-271 The Intestinal Flora. The Battle Creek Food Company.                                 |
| B-120 Building Resistance. William R. Warner & Co., Ltd.  | B-286 Ultra Violet Therapy in Your Office. A. S. Aloe Co.                                  |
|   | B-292 Acidosis and Infection—Alka-Zane. William R. Warner & Co., Inc.                      |

- B-301 Merrell's Salicylates. The Wm. S. Merrell Company.
- B-310 Conclusions from published research of the value of Ceanothyn as a hemostatic. Flint, Eaton & Co.
- B-318 Blood Clinical and Laboratory Diagnosis. A book of 160 pages by Henry Irving Berger, M.D., Battle & Company.
- B-335 The Bloodless Phlebotomist. The Denver Chemical Manufacturing Company.
- B-336 The Secret of our Digestive Glands. J. W. Wuppermann Angostura Bitters Agency, Inc.
- B-347 A Graphic Chart of the Treatment of Circulatory Disturbances. Merck & Company.
- B-354 Getting the Most Out of Life. Stanco, Inc.
- B-359 Vattenborg, Colonic Mobile Unit for Colon Irrigation. McIntosh Electrical Corporation.
- B-369 Burdick Zoalite Series for Infra-Red Therapy. The Burdick Corporation.
- B-371 The Use of Sulphocyanate of Soda in High Blood Pressure, reprint from The Canadian Medical Assn. Journal. The Tilden Company.
- B-374 Table for Determining Date of Delivery. The Viburno Company, Inc.
- B-377 All that joyous Aroma but less Nicotine. Health Cigar Co.
- B-379 Endocrine and other Organotherapeutic Preparations. Armour and Company.
- B-382 Three Aces and All Council Accepted. E. Bilhuber, Inc.
- B-383 Syrup Histosan Controls the Cough in Acute and Chronic Bronchitis, Pneumonia and Other Pulmonary Diseases. Ernst Bischoff Co., Inc.
- B-391 Imhotep. Egyptian Medicine Was a Quaint Mixture of Rationalism and Magic — Agarol. William R. Warner & Co., Inc.
- B-392 Arthritis, Its Classification and Treatment. Battle & Co.
- B-393 The Cause and Cure of Spinal Curvature and Kindred Ailments. The Philo Burt Mfg. Company.
- B-396 Rational Relief of Postpartum Pains through Gynodyne Therapy. Schering & Glatz, Inc.
- B-397 Lydin, a Standardized Male Sex Hormone with the Antisterility Vitamine-E. The Harrower Laboratory.
- B-399 Nitium, Crayon, Ovule, a Medication Radioactive. High Chemical Co.
- B-401 When the Cross Roads are Reached in Hemorrhoids (Piles). Schering & Glatz, Inc.
- B-402 The First Question—Agarol. Wm. R. Warner & Co., Inc.
- B-404 Urotropin, the Intravenous Administration of the Original Formaldehyde-Liberating Urinary and Systemic Antiseptic. Schering & Glatz.
- B-405 30 "Tilden" Cough Syrups from the Oldest Manufacturing Pharmaceutical House in America. The Tilden Company.
- B-406 Produces Consistent Results in Asthenia, Low blood-pressure, Slow convalescence, Run-down conditions. The Harrower Laboratory, Inc.
- B-407 The Doctor Visits Roche. Hoffmann-LaRoche, Inc.
- B-408 When colds hang on and coughs are stubborn, remember the effectiveness of Thiocol. Hoffmann-La Roche, Inc.
- B-409 Evidence in favor of Novotone in the High Court of Medical Practice. Healoderm, Ltd.
- B-410 Acidosis. A Warning Sign in Pregnancy. Wm. R. Warner & Co., Inc.
- B-412 The New Colloidal Antacid. The Wander Co.
- B-413 Scientific Coffee Brewing, Results of the Three Years Research of Department of Biology and Public Health of the Massachusetts Institute of Technology. Brazilian-American Coffee Promotion.
- B-414 Laboratory Tests in Pictures—Silvogen. Ernst Bischoff Company, Inc.
- B-415 Allonal, "Roche", Its Indications in Various Fields of Medicine and Surgery. Hoffmann-La Roche, Inc.
- B-416 Obesity, Its Types and Treatment. Battle & Co.
- B-417 Healoderm, Its Potent Effectiveness in Skin Diseases. Healoderm, Ltd.
- B-418 Diphtheria Can Be Kept from Your Family by Protective Immunization. The National Drug Co.
- B-419 Pneumonia, Special Reference to Treatment with Anti-Pneumococcic Serum. The National Drug Co.